Uni Connect national evaluation

An updated analysis of young participation in higher education in England in the areas targeted by Uni Connect

Contents

Summary

1. Uni Connect (formerly known as the National Collaborative Outreach Programme) is an Office for Students (OfS) funded programme that supports the delivery of sustained and progressive outreach to target learners in years 9 to 13 of secondary education.[1] The programme brings together 29 partnerships of universities, colleges and other local partners to offer activities, advice and information on the benefits and realities of going to university or college.

2. To assess how successfully the programme is meeting its aims, a range of national and local partnership evaluation activities have been established.[2] These include:

   a. Independent impact evaluation to assess changes in learners' higher education knowledge, attitudes, intentions and behaviours that result from Uni Connect activity, including a review of impact evidence from partnerships' local evaluations.

   b. Independent formative evaluation to improve understanding of how the programme is working and drive improvements.

   c. Partnership local evaluations, including longitudinal tracking.

   d. Monitoring activity delivery and learner engagement.

   e. Analysis of national administrative data (presented in this report).

3. This report provides an updated evaluation of one of the stated aims of the Uni Connect programme: to reduce the gap in higher education participation between the most and least represented groups of learners. It then investigates gaps in participation between learners living in Uni Connect target areas and those not, before finally considering some of the underlying factors associated with changes in these gaps over time.

4. With data available for two additional cohorts of Uni Connect participants since the previous OfS analysis was published, this report provides a more complete assessment of the national trends in participation rates to date. It now covers four years of Uni Connect outreach delivery to learners during school years 10, 11, 12 and 13.[3] This remains one year short of the five years sustained and progressive delivery between years 9 and 13 which the programme was designed to offer.

5. The two additional cohorts included in this report were applying (or at least receiving offers) during the COVID-19 pandemic, in the 2020 and 2021 application cycles respectively. Delivery of the Uni Connect programme was also disrupted during this period. The findings of this report should be viewed within this wider context. Because of this and other limitations (see the

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[1] For more information on Uni Connect, see www.officeforstudents.org.uk/advice-and-guidance/promoting-equal-opportunities/uni-connect/.

[2] See www.officeforstudents.org.uk/advice-and-guidance/promoting-equal-opportunities/uni-connect/evaluating-uni-connects-impact/.

[3] The previous analysis can be found at www.officeforstudents.org.uk/publications/uni-connect-national-evaluation/.

Methodology section of this report), the changes in higher education participation presented cannot be attributed to the Uni Connect programme alone.

In this report we consider five 'application outcomes' measuring success in getting into higher education. They all relate to 18-year-old applicants applying to full-time undergraduate courses through UCAS.

Application outcomes for the Key Stage 4 population:

Application rates: The proportion of the Key Stage 4 population that apply to higher education through UCAS (calculated by dividing the number of applicants by the number of learners in the Key Stage 4 population).

High tariff application rates: The proportion of the Key Stage 4 population that apply through UCAS to selective higher education providers – those with high average 'tariff scores' (calculated by dividing the number of applicants with at least one application to a high tariff provider by the number of learners in the Key Stage 4 population).[4]

Placed rates: The proportion of the Key Stage 4 population accepted to start higher education (calculated by dividing the number of accepted applicants by the number of learners in the Key Stage 4 population).

Application outcomes for the applicant population:

Offer rates: The proportion of applicants that receive at least one offer by 30 June or were recorded as being accepted by the end of the cycle (calculated by dividing the number of applicants that receive at least one offer by the total number of applicants).

Acceptance rates: The proportion of applicants that are accepted to start higher education by the end of the cycle (calculated by dividing the number of accepted applicants by the total number of applicants).

Findings

6. Our analysis finds that for learners attending state-funded mainstream schools and colleges in England who were 16-years-old at the end of their Key Stage 4 academic year:

   a. The gap in application rates between areas with the highest and lowest participation rates has increased since the Uni Connect programme launched, rising from 27.8 percentage points in 2016, to 27.9 percentage points in 2020, before increasing more substantially to 29.6 percentage points in 2021. During this period, application rates grew in every year for both groups, but the increase in application rates among learners from areas with the highest participation rates outpaced that of learners from areas with the lowest participation rates. Both the 2020 and 2021 application cycles were affected by changes in teaching, assessment, and delivery of outreach activity caused by the

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[4] See the OfS Key Performance Measure 2 for more information on how high tariff providers are defined: www.officeforstudents.org.uk/about/measures-of-our-success/participation-performance-measures/gap-in-participation-at-higher-tariff-providers-between-the-most-and-least-represented-groups/.

COVID-19 pandemic. The gap in placed rates between these groups has also risen from 25.2 percentage points in 2016 to 26.5 percentage points in 2021.

b. Meanwhile, the gap in application rates between learners living in areas targeted by Uni Connect and those living in other areas has also increased since the programme launched. After initially narrowing from 16.2 percentage points in 2016 to 15.9 percentage points in 2020, this gap then widened to 17.1 percentage points in 2021 – an increase of 0.9 percentage points since 2016. Again, this is because application rates were initially increasing by approximately the same amount each year in both groups, but the application rates of learners from other areas increased more substantially in 2021. The gap in placed rates between these groups has also risen from 14.6 percentage points in 2016 to 15.2 percentage points in 2021 – an increase of 0.6 percentage points.

c. It is possible that these trends in application outcomes are the result of factors other than the Uni Connect programme itself. It might be that the composition and characteristics of the two groups of learners are changing over time, which is influencing the gaps in application outcomes. We have therefore considered underlying differences in characteristics between learners living in Uni Connect areas and those not, by comparing two groups of learners with the same mix of certain characteristics. Where we do this, gaps in application rates and placed rates reduce substantially. This suggests that the characteristics used to match the two groups of learners (GCSE results, free school meal eligibility, sex and ethnicity) are contributing towards the observed gaps in application outcomes.

d. Nonetheless, after these underlying differences are taken into account, the gap in application rates is still estimated to have increased by between 0.5 and 1.7 percentage points between 2016 and 2021, which is statistically significant.[5] Estimates of the change in the gap in placed rates between 2016 and 2021 ranged between 0.0 and 1.2 percentage points.

e. The impact of the Uni Connect programme may be limited by its scale. Activity monitoring data returned by Uni Connect partnerships suggests that 17.2 per cent of learners living in Uni Connect target areas in the most recent cohort received the full amount of engagement intended in the programme design, although only a small minority of 10.5 per cent received no engagement whatsoever. For comparison, an engagement target of 20 per cent of learners living in Uni Connect target areas was agreed for Uni Connect partnerships in phase one and two of the programme.[6]

f. The gap in 'high tariff' application rates (the proportion of learners applying to more selective universities and colleges) between learners from Uni Connect target areas and learners from other areas has also widened since the launch of the programme,

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[5] Statistical significance is reported at the 95 per cent confidence level throughout this report.

[6] See 'Meeting targets and milestones' in 'NCOP: end of phase one report for the national formative and impact evaluations', available at www.officeforstudents.org.uk/publications/ncop-end-of-phase-one-evaluation-report/. For phase two, see paragraph 13 of 'National Collaborative Outreach Programme Phase two guidance' available at www.officeforstudents.org.uk/publications/national-collaborative-outreach-programme-phase-two-guidance/.

from 24.5 percentage points in 2016 to 27.3 percentage points in 2021. However, after taking into account underlying differences in characteristics between these groups, by comparing two groups of learners with the same mix of characteristics, the change in this gap is estimated between -0.2 and 1.0 percentage points.

g. Out of all the application outcomes considered in this report, the initial decision to apply to higher education continues to make the biggest contribution to the overall gaps in participation in higher education. Despite the fact that gaps in offer rates and acceptance rates have narrowed further since the launch of Uni Connect, these contribute only a very small amount towards the overall gaps in participation when compared with gaps in application rates.

h. GCSE attainment at Key Stage 4 continues to be strongly related to the likelihood of applying to higher education (see Annex A). Gaps in application rates between learners from Uni Connect target areas and other learners were persistent for those with at least four or five 'standard pass' GCSEs (those at grade A* to C – or 9 to 4) and the gaps widened as the number of these 'standard pass' GCSEs increased.

Next steps

7. The next steps are to:

a. Consider any further feedback received for this analysis. Annex E provides a summary of the feedback received for our previous report and the ways in which we have responded to that feedback in this update.

b. In 2023, update this analysis to include the next cohort using the 2022 application data. This will be the first cohort that could have received the full five years of engagement intended in the Uni Connect programme design. However, we will need to consider how the COVID-19 pandemic affected GCSE attainment for this cohort, who were awarded GCSEs in summer 2020.

c. Also in 2023, consider updating the analysis set out in Annex C, which uses higher education data for the 2021-22 academic year to understand the relationship between Uni Connect and participation by age 19. However, this will only be available for the cohort of learners who received at most three years of Uni Connect engagement.

This report is an official statistic which falls under the Code of Practice for Statistics. We welcome any feedback on our approach. Please email any comments to Stanley Rudkin at official.statistics@officeforstudents.org.uk.

Introduction

Structure of this report

8. This report contains:

    a. An introduction exploring the context of the Uni Connect programme, how this analysis fits into the wider programme evaluation, and the potential impact of the COVID-19 pandemic.

    b. A methodology section providing a description of the population analysed in this report, an overview of POLAR (the area-based measure of underrepresentation used in this report), definitions of various outcomes from the application process, as well as a discussion of some of the limitations with this analysis.

    c. A summary of the trends in application outcomes for the Key Stage 4 population.

    d. Analysis of differences in application outcomes between learners from the most and least represented areas in England.

    e. An attempt to quantify the extent of engagement in the areas targeted by Uni Connect, followed by an analysis of differences in application outcomes between learners from Uni Connect target areas and those not.

    f. A 'matched counterfactual' analysis that estimates changes in gaps in application outcomes between learners from Uni Connect areas and those not, after underlying differences in characteristics are taken into account.

    g. Annexes with:

        i. An analysis of the relationship between GCSE attainment and application rates.

        ii. Data tables showing the numbers and proportions of learners from Uni Connect target areas and other areas with different characteristics.

        iii. An early indication of the trends in rates of entry to higher education by age 19 using the available administrative data.

        iv. Further details on the statistical methodology.

        v. A summary of feedback and changes since the previous publication.

9. A datafile with the underlying data used to produce the charts is available alongside this report.[7]

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[7] See www.officeforstudents.org.uk/publications/uni-connect-national-evaluation-updated-analysis/.

Uni Connect programme

10. Uni Connect (formerly known as the National Collaborative Outreach Programme) is an OfS-funded programme that supports the delivery of sustained and progressive outreach to target learners in years 9 to 13 of secondary education.[8] The programme brings together 29 partnerships of universities, colleges and other local partners to offer activities, advice and information on the benefits and realities of going to university or college.

11. Uni Connect is being delivered in three phases: phase one of the programme started in January 2017 and ran until July 2019; phase two started in August 2019 and finished in July 2021; and phase three started in August 2021 and is due to finish in July 2025.

12. Figure 1 below provides a visual representation of the various cohorts of learners engaged by the programme, from Key Stage 4 through to higher education entry. It shows that the potential number of years of engagement that each cohort may have received has increased since the programme launched in 2017, with the (outlined) 2021 entry cohort (which is the most recent with available data) having received at most four out of the five full years of sustained and progressive outreach intended in the programme design.

Figure 1: Timing of higher education entry for Uni Connect cohorts
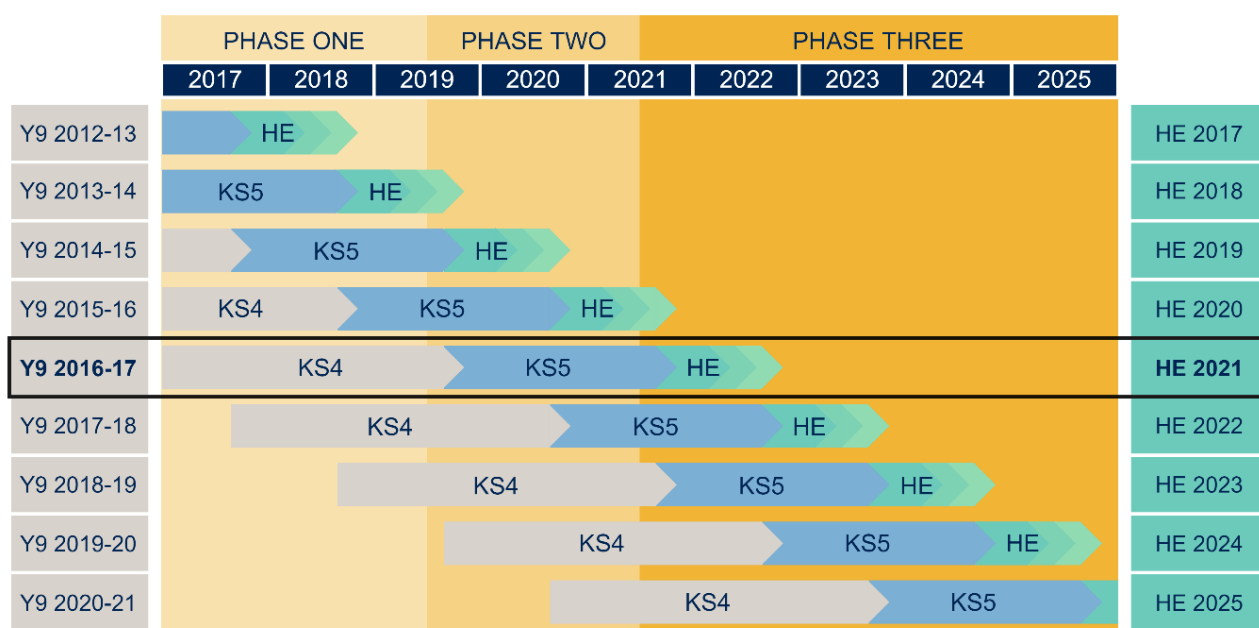
13. Only phases one and two are within scope of the evaluation in this report, because there is not yet sufficient national administrative data available for the cohorts of learners being engaged in phase three.

14. The first phase of Uni Connect aimed to support the government's social mobility goals by rapidly increasing the number of young people from underrepresented groups who go into higher education. Phase two built on this by aiming to:

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[8] For more information on Uni Connect, see www.officeforstudents.org.uk/advice-and-guidance/promoting-equal-opportunities/uni-connect/.

a. Reduce the gap in higher education participation between the most and least represented groups.

b. Support young people to make well-informed decisions about their future education.

c. Support effective and impactful local collaboration by higher education providers working together with schools, colleges, employers and other partners.

d. Contribute to a stronger evidence base around 'what works' in higher education outreach and strengthen evaluation practice in the sector.[9]

Uni Connect evaluation

15. To assess how successfully the programme is meeting these aims, a range of national and local partnership evaluation activities have been established.[10] This report should be considered alongside this wider evaluation activity. The programme evaluation includes:

a. Independent impact evaluation to assess changes in learners' higher education knowledge, attitudes, intentions and behaviours that result from Uni Connect activity, including a review of impact evidence from partnerships' local evaluations.

b. Independent formative evaluation to improve understanding of how the programme is working and drive improvements.

c. Partnership local evaluations, including longitudinal tracking.

d. Monitoring activity delivery and learner engagement.

e. Analysis of national administrative data (presented in this report).

16. The purpose of this analysis is to provide an updated assessment of whether, as stated in the programme aims, the gap in higher education participation between the most and least represented groups in England has reduced since the launch of Uni Connect in 2017. Other parts of the programme evaluation focus more on the success of interventions at the local level.

COVID-19 pandemic

17. The two most recent cohorts of learners in this updated analysis were applying (or at least receiving offers) during the COVID-19 pandemic, in the 2020 and 2021 application cycles respectively. But the nature of this disruption varied between the two cohorts.

18. For learners applying in the 2020 cycle, the vast majority (around 95 per cent) had already applied by the January deadline before the first lockdown was announced in the UK on 23

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[9] New aims for phase three can be found at www.officeforstudents.org.uk/advice-and-guidance/promoting-equal-opportunities/uni-connect/.

[10] See www.officeforstudents.org.uk/advice-and-guidance/promoting-equal-opportunities/uni-connect/evaluating-uni-connects-impact/.

March 2020. This means that application rates were mostly unaffected by the pandemic in the 2020 cycle.

19. However, subsequent stages of the application process for this cohort were significantly influenced by the events of the pandemic. Perhaps most importantly, many more of these applicants met the terms of their offers, because Level 3 qualifications (such as A-levels) were awarded on the basis of 'centre assessment grades', which were on average around half a grade higher than in previous years.[11] The result was that, in 2020, more students from the most disadvantaged backgrounds entered higher education than ever before.[12] However, this was accompanied by a similar increase in the number of entrants from the most represented backgrounds as well.[13] This meant that, while opportunity had improved, equality of opportunity had not.

20. In contrast to the 2020 cycle, learners applying in the 2021 cycle were both studying and applying to higher education courses throughout the pandemic, with in-person teaching and access to information, advice and guidance all significantly disrupted. Arrangements for the assessment of Level 3 qualifications were once again different from previous years for the 2021 cohort, with a combination of coursework, mock exams and essays being used by teachers to decide grades.[14] Once again, there were record numbers of A-level students achieving the highest grades and consequently being accepted into their first choice university.[15]

21. Delivery of the Uni Connect programme was also disrupted, with 7,278 activities cancelled and 973 postponed between February and July 2020 (compared with 28,601 activities delivered in total between August 2019 and July 2020).[16] In response, the OfS undertook a review of the equality impact assessment of the programme and issued further guidance to the partnerships, which quickly explored alternative modes of engagement and delivery in response to the changed environment.[17] A key finding from CFE research on responses to coronavirus was that many existing activities and materials were adapted for online delivery, in some cases

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[11] See 'An evaluation of centre assessment grades from summer 2020', available at www.gov.uk/government/publications/evaluation-of-centre-assessment-grades-and-grading-gaps-in-summer-2020.

[12] See the UCAS report, 'What happened to the COVID cohort?', available at www.ucas.com/data-and-analysis/undergraduate-statistics-and-reports/ucas-undergraduate-end-cycle-reports/2020-end-cycle-report.

[13] See www.officeforstudents.org.uk/annual-review-2021/improving-students-experience-of-higher-education/#admissions.

[14] See www.gov.uk/government/publications/gcse-as-and-a-level-summer-report-2021/gcse-as-and-a-level-summer-report-2021.

[15] See www.ucas.com/corporate/news-and-key-documents/news/record-number-students-accepted-their-first-choice-university.

[16] For more information on the number of activities delivered and the disruption caused by the COVID-19 pandemic, see pages 12 and 22 to 28 respectively of the 'Uni Connect annual report: Phase two (August 2019 to 2020)', available at www.officeforstudents.org.uk/publications/uni-connect-annual-report-phase-two/.

[17] See www.officeforstudents.org.uk/publications/uni-connect-programme-an-update-from-the-office-for-students/.

supporting learners with more flexibility and choice.[18] A total of 4,201 activities were reported to have taken place as planned or moved online, with 85 per cent of activity delivered online during the lockdown period (from 26 March to 31 July 2020), compared with just 4 per cent before this period. Efforts to understand the mode of delivery of outreach activity for the 2021 cohort are now underway, as part of the wider programme evaluation.

22. The findings of this report, which relate to these two most recent cohorts of applicants, should be viewed within this wider context. Gaps in participation and application rates are likely to have been influenced by both the pandemic and the Uni Connect programme. For the 2021 cohort in particular, it is impossible to definitively separate the impact of the Uni Connect programme from that of the pandemic, or to know the application outcomes of learners in target areas if they had not engaged with the Uni Connect programme. Nonetheless, in the final part of this analysis, we have sought to minimise the differences in characteristics between learners from Uni Connect target areas and learners from other areas (which should in turn minimise any differences in their experience of the pandemic) to ensure they are comparable.

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[18] See www.officeforstudents.org.uk/publications/emerging-insight-report-covid-19-and-uni-connect/.

Methodology

Population

23. This analysis uses linked National Pupil Database (NPD)[19] to UCAS data. The initial population includes 10 cohorts of learners who obtained their Key Stage 4 qualifications (most commonly GCSEs) between summer 2010 and 2019, while they were in year 11 of secondary education. We start with this relatively long time series to consider recent trends within the broader context of how participation rates were changing before the Uni Connect programme was introduced.

24. Learners in this population, which we refer to as the 'Key Stage 4 population' in this report, will have:

    a. Attended a state-funded mainstream school or college in England.

    b. Lived in England.

    c. Been 16 years old by the end of their Key Stage 4 academic year.

25. Table B1 in Annex B provides population counts of these learners, for those living in areas targeted by Uni Connect and those living in other areas.

26. NPD data for this population of Key Stage 4 learners was linked to UCAS applicant data using personal characteristics such as name and postcode. The linking approach is 'fuzzy', in that it takes account of differences in how personal characteristics are recorded between the datasets, by allowing for typos and misspelling of names, for example. Ultimately this enables us to track how many of the original population of 16-year-old learners in England applied through UCAS and were then accepted to start a higher education course by age 18.[20]

27. It should be noted that if a learner applies to higher education more than two years after their final Key Stage 4 year, this would not be captured. Additionally, some applicants may be accepted to start a higher education course without using the UCAS Undergraduate scheme. For example, they may apply to a conservatoire, or to a part-time course. Nonetheless, most applications made by 18-year-olds will be through UCAS.[21]

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[19] The Department for Education (DfE) does not accept responsibility for any inferences or conclusions derived from the NPD data by third parties.

[20] The linking process does not use information from Key Stage 5. This is done to avoid introducing a time series bias, whereby more recent cohorts of learners are less likely to match than earlier cohorts because their Key Stage 5 information is not yet available. This means that the proportion of learners identified as having applied through UCAS (the application rate) is likely to be slightly underestimated in this report.

[21] A small number of applicants are placed through UCAS routes outside of the main scheme, including Direct Clearing and Records of Prior Acceptance (RPA), which are both included in this analysis. Between 1,105 and 2,430 applicants were placed through Direct Clearing in each cycle between 2016 and 2021, compared with between 855 and 2,320 placed through RPA.

POLAR

28. One of the original aims of Uni Connect was raising higher education participation of young people from underrepresented groups, as measured by Participation of Local Areas (POLAR3).[22] POLAR classifies local areas into five groups – or quintiles – based on the proportion of young people who enter higher education aged 18 or 19 years-old. Quintile one includes areas with the lowest rates of participation, while quintile five includes areas with the highest rates of participation.

29. POLAR3 was the most up-to-date area-based measure of young participation when the Uni Connect programme was launched in 2017, so increasing the participation rate of POLAR3 quintile 1 areas (relative to quintile 5) was the agreed aim of the programme and the measure used in this analysis.

Application outcomes

30. In this report we consider five 'application outcomes' measuring success in getting into higher education. They all relate to 18-year-old applicants applying to full-time undergraduate courses through UCAS.

31. Young participation is defined as entering higher education by the age of 19. It is normally measured using administrative data collected by the Higher Education Statistics Agency (HESA) and the Individualised Learner Record (ILR). However, this data is not available for more than a year after each cohort could have entered higher education aged 19, which means it is significantly lagged.[23]

32. Instead, linked NPD and UCAS data for 18-year-old applicants allows us to take an earlier view of application outcomes than is otherwise possible using higher education participation data. The UCAS data available for this analysis covered application cycles from 2012 to 2021.

Application outcomes for the Key Stage 4 population:

Application rates: The proportion of the Key Stage 4 population that apply to higher education through UCAS (calculated by dividing the number of applicants by the number of learners in the Key Stage 4 population).

High tariff application rates: The proportion of the Key Stage 4 population that apply through UCAS to selective higher education providers – those with high average 'tariff scores'

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[22] See www.officeforstudents.org.uk/data-and-analysis/young-participation-by-area/about-polar-and-adult-he/.

[23] In Annex C, we analyse the available higher education data, which although more lagged, covers alternative routes of entry which cannot be seen in the UCAS data, including part-time study and entry by age 19.

(calculated by dividing the number of applicants with at least one application to a high tariff provider by the number of learners in the Key Stage 4 population).[24]

Placed rates: The proportion of the Key Stage 4 population accepted to start higher education (calculated by dividing the number of accepted applicants by the number of learners in the Key Stage 4 population).

Application outcomes for the applicant population:

Offer rates: The proportion of applicants that receive at least one offer by 30 June or were recorded as being accepted by the end of the cycle (calculated by dividing the number of applicants that receive at least one offer by the total number of applicants).

Acceptance rates: The proportion of applicants that are accepted to start higher education by the end of the cycle (calculated by dividing the number of accepted applicants by the total number of applicants).

33. Of all the application outcomes defined above, the measure most aligned with the definition of higher education participation – and the aims of the Uni Connect programme – is the placed rate: the proportion of the Key Stage 4 population that were accepted to start a higher education course.

34. But by considering each stage of the application process in turn, we can gain further insight into which stage is making the greatest contribution to the gap in participation rates between the most and least represented areas. Therefore, in addition to the placed rate, we are also interested in whether underrepresented groups were less likely to apply for higher education, as measured by the application rate.

35. Although not one of the explicit aims of the Uni Connect programme, it is also of interest if learners from Uni Connect areas are applying to more selective universities and colleges at a different rate to other learners. This can be measured by the 'high tariff application rate'.

36. In contrast to application rates and placed rates, offer rates and acceptance rates are conditional on a learner having already applied through UCAS. We find that differences in these outcomes are very small in comparison to the gaps in application rates and placed rates.

37. See Table 1 below for a summary of the different groups of learners which inform the application outcomes described above.

Table 1: Data used for the outcomes measures

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[24] See the OfS Key Performance Measure 2 for more information on how high tariff providers are defined: www.officeforstudents.org.uk/about/measures-of-our-success/participation-performance-measures/gap-in-participation-at-higher-tariff-providers-between-the-most-and-least-represented-groups/.

Group of learners	Data source	Description	Age group
Key Stage 4 population	NPD	Studying in school year 11, the final year of Key Stage 4, typically taking their GCSEs	Aged 16 at the end of the year
Applicants	UCAS	Made at least one application to higher education through UCAS Undergraduate scheme	Aged 18 at the end of the year, two years after taking their GCSEs
Offered	UCAS	Received at least one offer by 30 June or accepted onto a course by the end of the cycle	Aged 18 at the end of the year, two years after taking their GCSEs
Accepted	UCAS	Accepted onto a higher education course by the end of the cycle	Aged 18 at the end of the year, two years after taking their GCSEs

Limitations

38. Before presenting the findings, a number of limitations with this analysis should be noted:

a. The most recent UCAS application data in this report was for the 2021 application cycle. The applicants who were aged 18 in the 2021 application cycle would have been half way through year 9 as phase one of Uni Connect was being established in 2017, meaning they could have had at most four and a half out of the five years of sustained and progressive outreach intended in the programme design.

b. As previously stated, the COVID-19 pandemic is likely to have influenced the application outcomes of the two most recent cohorts of learners included in this analysis, as well as the delivery of the Uni Connect programme itself. Particularly for the cohort applying in 2021, it is impossible to definitively separate the impact of the Uni Connect programme from that of the pandemic.

c. With this data, we were not able to identify the individuals with whom the partnerships have worked as part of the Uni Connect programme. We could only identify individuals who lived in the areas targeted by Uni Connect while in Key Stage 4. For this reason, this analysis cannot show the impact of Uni Connect in raising participation among learners who were directly engaged by the programme.[25] It can only show whether the Uni Connect programme appears to be associated with improved participation rates in targeted areas.

d. It is possible that learners who are being engaged by the programme are benefitting, but that the scale of this outreach is insufficient to have any meaningful impact at a national level, and therefore cannot be seen in the findings of this analysis. In Table 6,

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[25] Although we did attempt to repeat this analysis for a more limited population of learners whose schools appeared to have been directly engaged by the programme as part of our sensitivity analysis. There was no difference in the overall conclusions.

we show that less than one in five learners who were living in target areas in the most recent cohort were recorded as having attended a school which later received the full four years of engagement available to them. On the other hand, nearly all these learners are understood to have attended a school which received at least some engagement.

e. This data does not identify individuals who have engaged with other outreach programmes. Therefore, there will be some people who have benefited from other outreach programmes who we then compare against learners from Uni Connect areas.

f. Similarly, we cannot take into account any pre-existing outreach targeting the same outcomes and areas as Uni Connect, which either stopped when Uni Connect was launched or became incorporated into the Uni Connect programme. This means that the year used as a comparison in this analysis (2016 – one year before the launch of Uni Connect) relates to a cohort which may have benefited from other outreach activity, while more recent cohorts did not.

g. To analyse cohorts earlier than would otherwise be available through the administrative higher education entry data, we based this analysis on applications through UCAS at age 18 for full-time undergraduate courses. But this is more narrowly defined than higher education participation, which includes more courses (such as part-time courses) and entry by age 19. Annex C begins to address this gap in evidence by using the available higher education data.

h. The quantitative administrative data does not capture all factors that are associated with participation in higher education. Therefore, even after matching learners on a set of personal characteristics as we do in the final section of this report, there will always be other factors that are also associated with higher education participation which remain unbalanced across the two groups. For example, the data does not capture the level of school or parental support each learner received, or differences in attitudes of individual learners. As previously stated, the data cannot capture all differences in pandemic-related behaviour between these two groups either.

i. Part of this analysis matches learners from Uni Connect areas with those from other areas according to the number of GCSEs they held at grades A* to C (or 9 to 4). Although it was not an aim of the Uni Connect programme to raise attainment among participating learners in either phase one or two, it is possible that it has indirectly had this effect for the two most recent cohorts of learners, whose Uni Connect engagement potentially began in school years 9 and 10 respectively. It is therefore possible that matching learners on GCSE attainment disguises any knock-on effect of higher attainment on application outcomes.

39. Overall, these limitations mean that the analysis in this report cannot identify a truly causal relationship between the Uni Connect programme and trends in higher education participation at a national level. It does identify whether national gaps in participation between the most and least represented areas are closing, whether this is evident in areas targeted by Uni Connect, and whether these trends appear to be associated with other underlying differences in characteristics between groups of learners. But it cannot attribute causality to the Uni Connect programme.

40. Despite these limitations, we remain confident that this analysis represents an important contribution to the evaluation of the Uni Connect programme at a national level. It is the only part of the programme evaluation which considers the long-term trend in participation rates at a national level using administrative data (as opposed to survey data). Unlike other parts of the programme evaluation, which are more locally focussed, this national administrative data enables us to track all learners attending state-funded mainstream schools in England from Key Stage 4 through to the UCAS Undergraduate scheme.

Application outcomes for Key Stage 4 population

41. In this section, we present summary statistics for the five application outcomes across the Key Stage 4 population, starting from 2012, five years before Uni Connect was launched, through to 2021, four years into the programme. We use this relatively long time series to consider recent trends within the broader context of how application and participation rates were changing before the programme was introduced.

42. As previously stated, the two most recent cohorts of learners in this analysis were applying (or at least receiving offers) during the COVID-19 pandemic, in the 2020 and 2021 application cycles respectively. The findings which relate to these two most recent cohorts of applicants should be viewed within this wider context.

43. The application rate measures the level of demand for higher education among school and college leavers. As shown in Table 2, it has increased each year, from 31.4 per cent in the 2012 application cycle to 42.6 per cent in the 2021 cycle. This is reflected by a similar increase in placed rates, which have risen from 25.8 per cent in 2012 to 37.3 per cent in 2021. Similarly, the proportion of the Key Stage 4 population applying to the most selective – 'high tariff' – universities and colleges has also increased, from 17.4 per cent in 2012 to 29.3 per cent in 2021. The Uni Connect programme was launched in 2017, during this period of year-on-year increases.

44. Across all these years, the offer rate was high. By the time that Uni Connect launched in 2017, 98.1 per cent of applicants received at least one offer. Similarly, a high proportion of applicants were accepted by the end of each year, standing at 87.6 per cent in the 2021 application cycle.

Table 2: Application outcomes for the Key Stage 4 population

Application outcome	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Application rate	31.4%	32.5%	33.9%	34.6%	35.8%	36.5%	36.9%	38.8%	40.5%	42.6%
High tariff application rate	17.4%	18.5%	19.7%	20.9%	22.4%	23.7%	24.2%	26.2%	27.4%	29.3%
Placed rate	25.8%	27.5%	28.8%	29.7%	31.0%	31.7%	32.2%	33.7%	36.3%	37.3%
Offer rate	95.7%	96.3%	96.9%	97.3%	97.6%	98.1%	98.4%	98.5%	98.7%	98.6%
Acceptance rate	82.3%	84.6%	84.9%	85.9%	86.6%	86.9%	87.1%	87.0%	89.7%	87.6%

Application outcomes by POLAR3

45. Having seen the trends across the Key Stage 4 population, we now compare the application outcomes of learners living in the most represented (POLAR3 quintile 5) and least represented (quintile 1) areas for each application cycle from 2012 to 2021. We find that first making an application is the stage of the process that makes the largest contribution to the participation gap.

46. We start by reporting gaps in outcomes which are measured as a proportion of the Key Stage 4 population: application rates, high tariff application rates and placed rates. We then consider the two application outcomes which are conditional on a learner having applied through UCAS: offer rates and acceptance rates.

Application rate

47. Data from the most recent cohort of learners (who applied during the COVID-19 pandemic) shows that the gap in application rates between the most and least represented areas has widened since 2012.

48. In this analysis, the application rate is the proportion of the Key Stage 4 population who apply to higher education through UCAS. Figure 2 shows application rates between the 2012 and 2021 UCAS application cycles, comparing learners who were living in POLAR3 quintile 5 and quintile 1 areas in England, according to postcode information recorded in Key Stage 4.

49. Application rates for both POLAR3 quintile 1 and quintile 5 areas increased year-on-year since 2012. But in each cycle, there was a substantial gap of around 27 to 28 percentage points between the application rate for the most and least represented areas.[26] This means that young people from the most represented areas were more than twice as likely to apply for higher education at age 18 than than those from the least represented areas.

50. Between 2012 and 2020, application rates grew from 18.5 per cent to 27.3 per cent in POLAR3 quintile 1 areas (up 8.8 percentage points), and from 46.5 per cent to 55.2 per cent in quintile 5 areas (up 8.7 percentage points). Therefore, the absolute increase in application rates was broadly similar for these two groups.

51. However, in the most recent 2021 application cycle, for the cohort of learners who applied during the COVID-19 pandemic, the gap between the most and least represented areas widened from 27.9 percentage points in 2020 to 29.6 percentage points in 2021, an increase of 1.7 percentage points.

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[26] Note that percentage point differences in this report have been calculated using unrounded numbers, which means they sometimes differ from the difference between other rounded numbers elsewhere in the report.

Figure 2: Gaps in application rates between POLAR3 quintiles 1 and 5
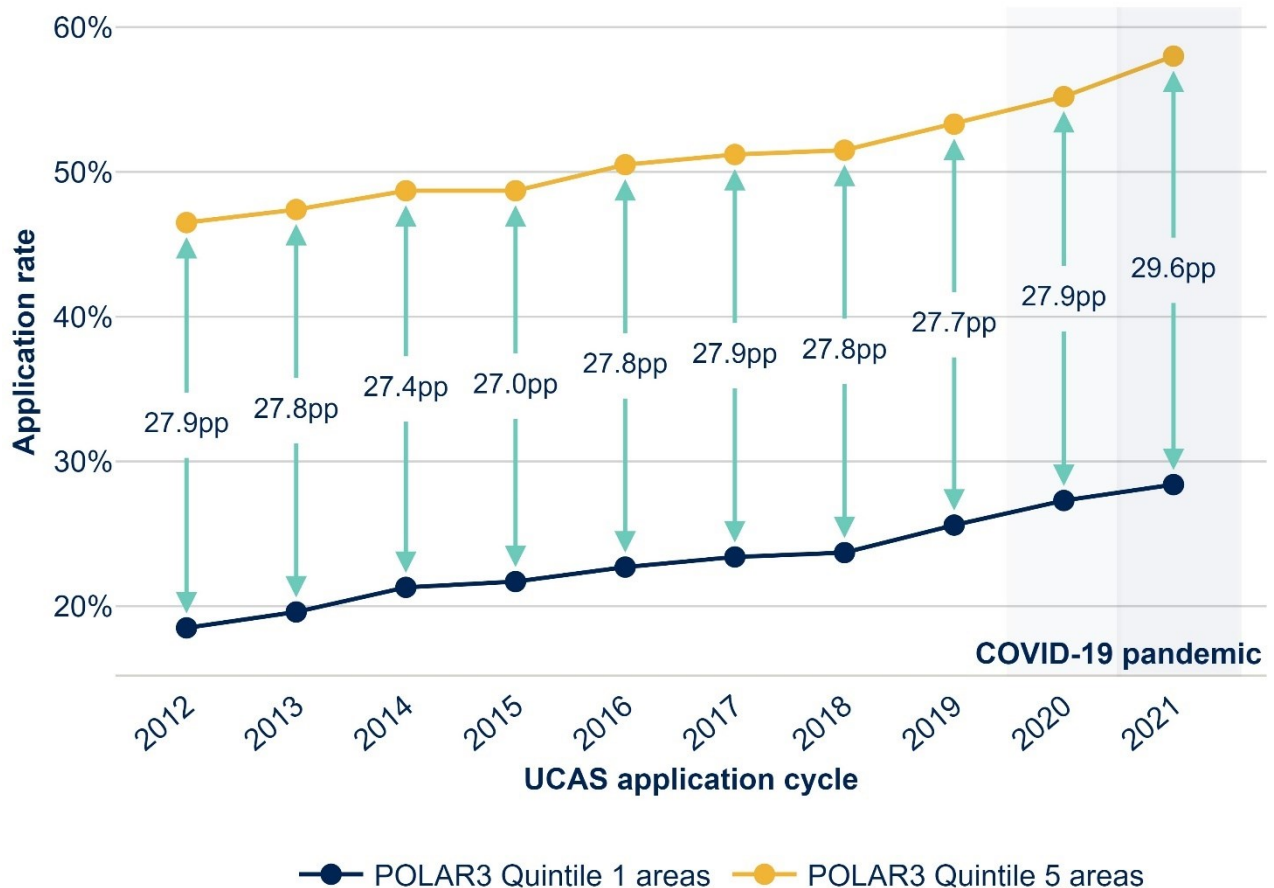
Note: The underlying data for all charts in this report are available in the datafile associated with this release.[27]

52. In addition to learners from POLAR3 quintile 1 areas, it is possible that learners from POLAR3 quintile 2 areas also benefited from Uni Connect outreach, despite not being directly targeted. Figure 3 below demonstrates that, although the application rate is higher for POLAR3 quintiles 1 and 2 combined, the overall trend is very similar to when learners from POLAR3 quintile 1 areas are considered in isolation.

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[27] Available at www.officeforstudents.org.uk/publications/uni-connect-national-evaluation-updated-analysis/.

Figure 3: Gaps in application rates between POLAR3 quintiles 1 and 2 combined and POLAR3 quintile 5
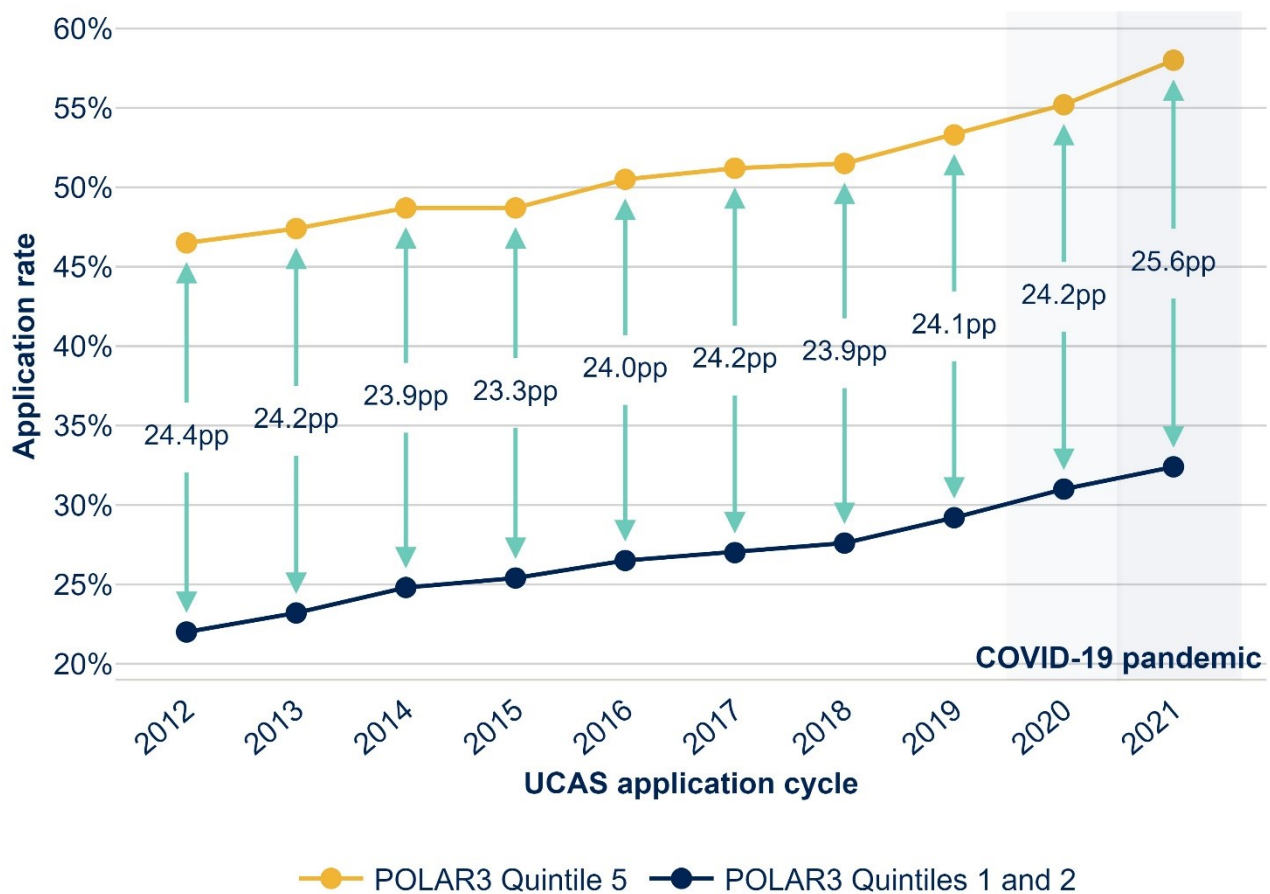
High tariff application rate

53. Figure 4 shows the difference in the proporton of learners from the most and least represented areas that applied to more selective higher education providers (those with high average 'tariff scores') since 2012.

54. In 2021, learners from the most represented areas were 27.3 percentage points more likely to apply to a high tariff provider than learners from the least represented areas. By comparison, this gap stood at 22.4 percentage points in 2012, which means it has since widened by 4.9 percentage points. The increase in this gap for the 2021 cohort is consistent with findings that UCAS reported on A-level results day.[28]

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[28] See www.ucas.com/corporate/news-and-key-documents/news/record-number-students-accepted-their-first-choice-university.

Figure 4: Gaps in high tariff application rates between POLAR3 quintiles 1 and 5
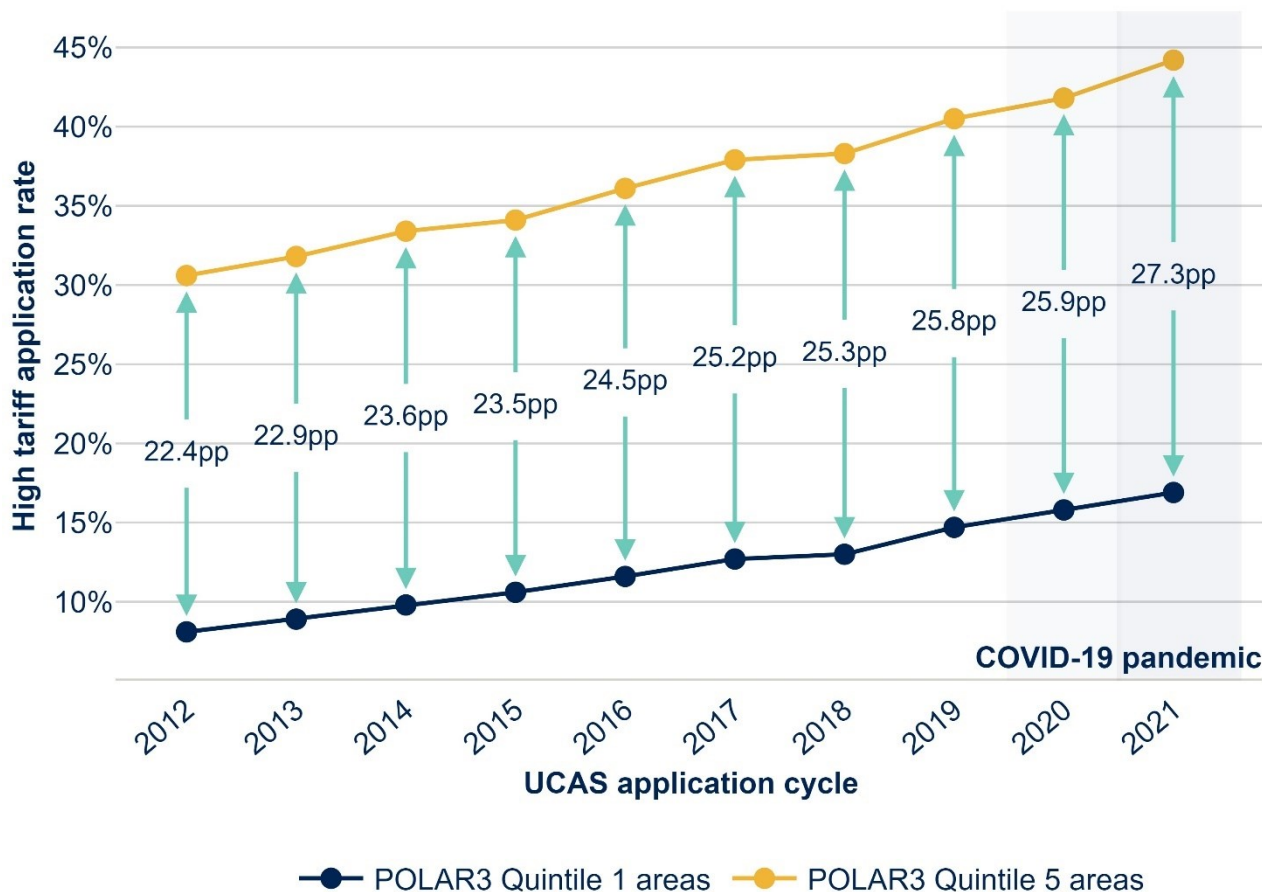
Placed rate

55. Like the gap in application rates, the gap in placed rates between POLAR3 quintiles 1 and 5 has also widened since 2012.

56. In this analysis, the placed rate is defined as the proportion of the Key Stage 4 population who were accepted to start a higher education course through the UCAS Undergraduate scheme. As Table 2 previously showed, like other application outcomes, placed rates have risen across England, rising from 25.8 per cent in 2012 to 37.3 per cent in 2021. Much of this increase occurred in the two most recent cohorts, for whom record numbers achieved the highest grades at Level 3 (such as A-levels), meaning more applicants than ever before met the terms of their offers and were subsequently placed on a higher education course.

57. Figure 5 shows that that young people from the most represented areas were more than twice as likely to be accepted to a higher education course at age 18 than those from the least represented areas, with the gap in placed rates remaining between 24 and 27 percentage points throughout the period.

58. Since 2012, placed rates initially grew from 14.9 per cent to 22.1 per cent in 2019 (up 7.2 percentage points) in the least represented areas in England. Meanwhile, the most represented areas saw an increase from 39.0 per cent to 46.7 per cent (up 7.7 percentage points) between 2012 and 2019. This means that the gap in placed rates between quintile 1 areas and quintile 5 areas initially widened by 0.5 percentage points between 2012 and 2019.

59. The gap in placed rates between these two groups then widened more substantially for the two cohorts which applied or received offers during the COVID-19 pandemic, standing at 26.5 percentage points in 2021. This was largely driven by substantial increases in placed rates in the most represented areas in the 2020 and 2021 application cycles, which was not reflected in underrepresented areas.

Figure 5: Gaps in placed rates between POLAR3 quintiles 1 and 5
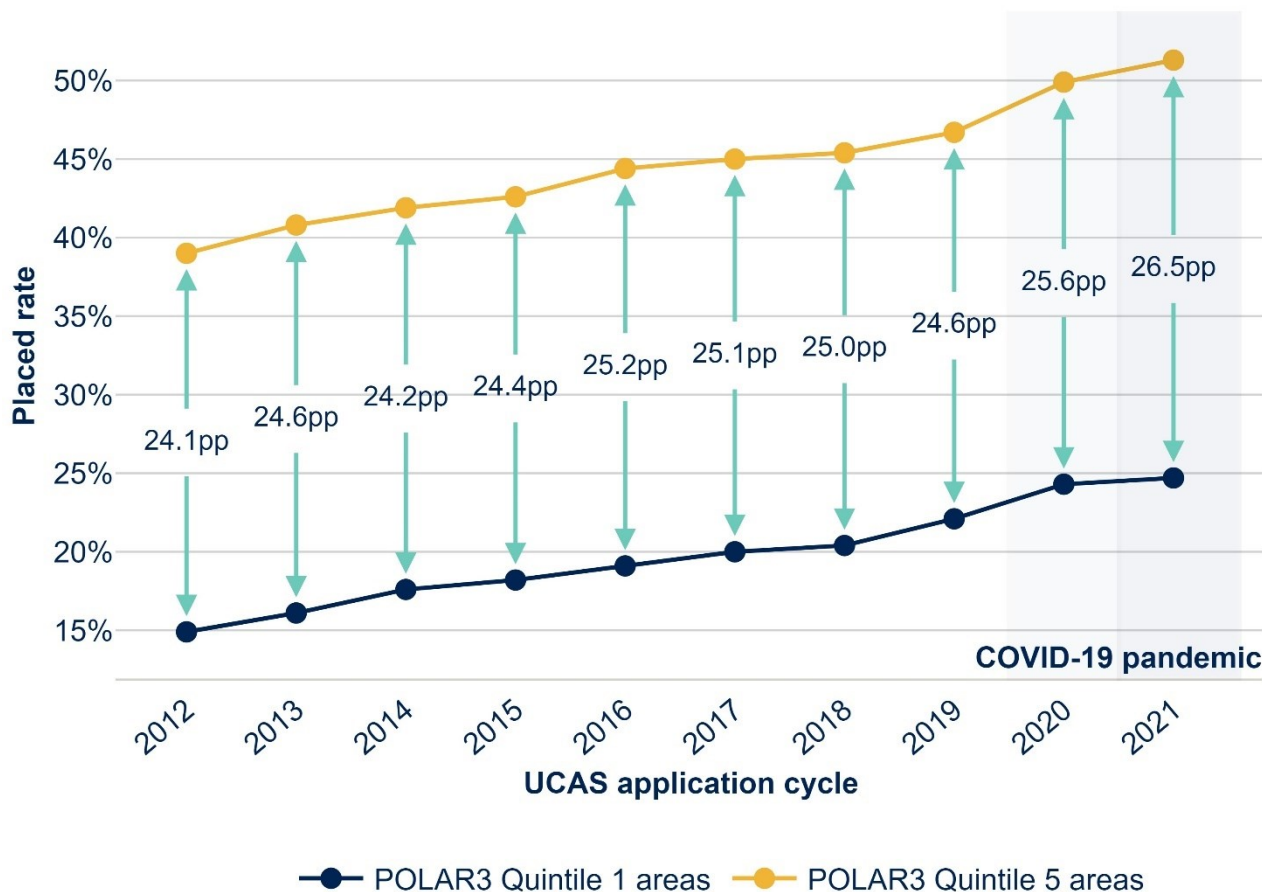
Offer rate

60. The gap in offer rates between POLAR3 quintiles 1 and 5, which is much smaller than gaps in the application outcomes presented above, has narrowed since 2012.

61. The offer rate is the proportion of applicants who receive at least one offer. Table 2 shows that offer rates have historically been very high for all school leavers: more than 97 per cent of applicants received at least one offer by the end of the 2016 UCAS application cycle.

62. In all years since 2012, there has been a gap in offer rates between learners from POLAR3 quintile 1 and quintile 5 areas, but by the time the Uni Connect programme launched in 2017, it had already reduced to just 1.0 percentage point and then reduced further to stand at 0.4 percentage points in 2021. In 2021, 98.4 per cent of school leavers from POLAR3 quintile 1 areas received at least one offer compared with 98.8 per cent of school leavers from quintile 5 areas, as shown in Figure 6.

63. Given less than 2 per cent of applicants did not receive an offer in the most recent application cycle, it is possible that there is simply some unobserved factor that is more prevalent amongst POLAR3 quintile 5 learners which is driving the remaining 0.4 percentage point gap in offer rates between these two groups.

64. The size of this gap is nonetheless useful to compare with the gap in acceptance rates (presented shortly) to understand that relatively little of the difference in success after having applied through UCAS is due to receiving an offer, as opposed to the applicant subsequently meeting the terms of their offer and being accepted.

Figure 6: Gaps in offer rates between POLAR3 quintiles 1 and 5
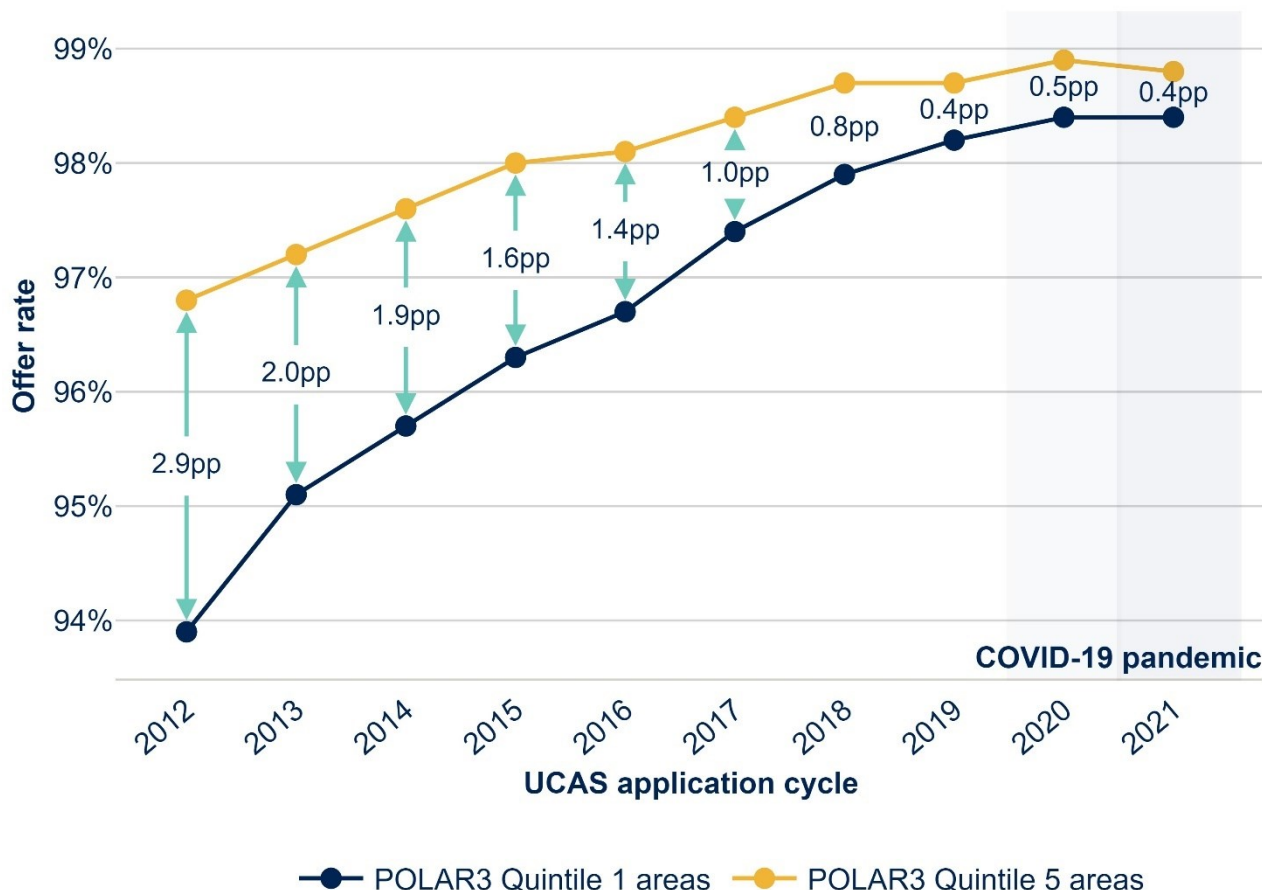
Acceptance rate

65. Similarly, the gap in acceptance rates between POLAR3 quintiles 1 and 5 has also narrowed since 2012.

66. The acceptance rate is the proportion of applicants that are accepted to start higher education. Table 2 shows that acceptance rates were also relatively high for all applicants, with more than 86 per cent of applicants accepted by the end of the 2016 UCAS application cycle.

67. In all years since 2012, there has been a gap in acceptance rates between POLAR3 quintile 1 and quintile 5 areas, as shown in Figure 7. This gap remained between 3.7 and 3.3 percentage points until 2016, and then reduced to 1.3 percentage points by 2021. This gap initially narrowed because the acceptance rate for school leavers from POLAR3 quintile 5 remained

around 88 per cent between 2016 and 2019, but the acceptance rate for those from quintile 1 areas continued to increase each year and was 86.3 per cent in 2019.

68. Despite changes in Level 3 teaching and assessment practices for the cohorts applying in 2020 and 2021 due to the COVID-19 pandemic – and the resultant fluctuation in acceptance rates – the overall gap in acceptance rates remained mostly unchanged in these two years. In 2021, applicants from the most represented areas were 1.3 percentage points more likely to be accepted to start a higher education than applicants from the least represented areas.

Figure 7: Gaps in acceptance rates between POLAR3 quintiles 1 and 5
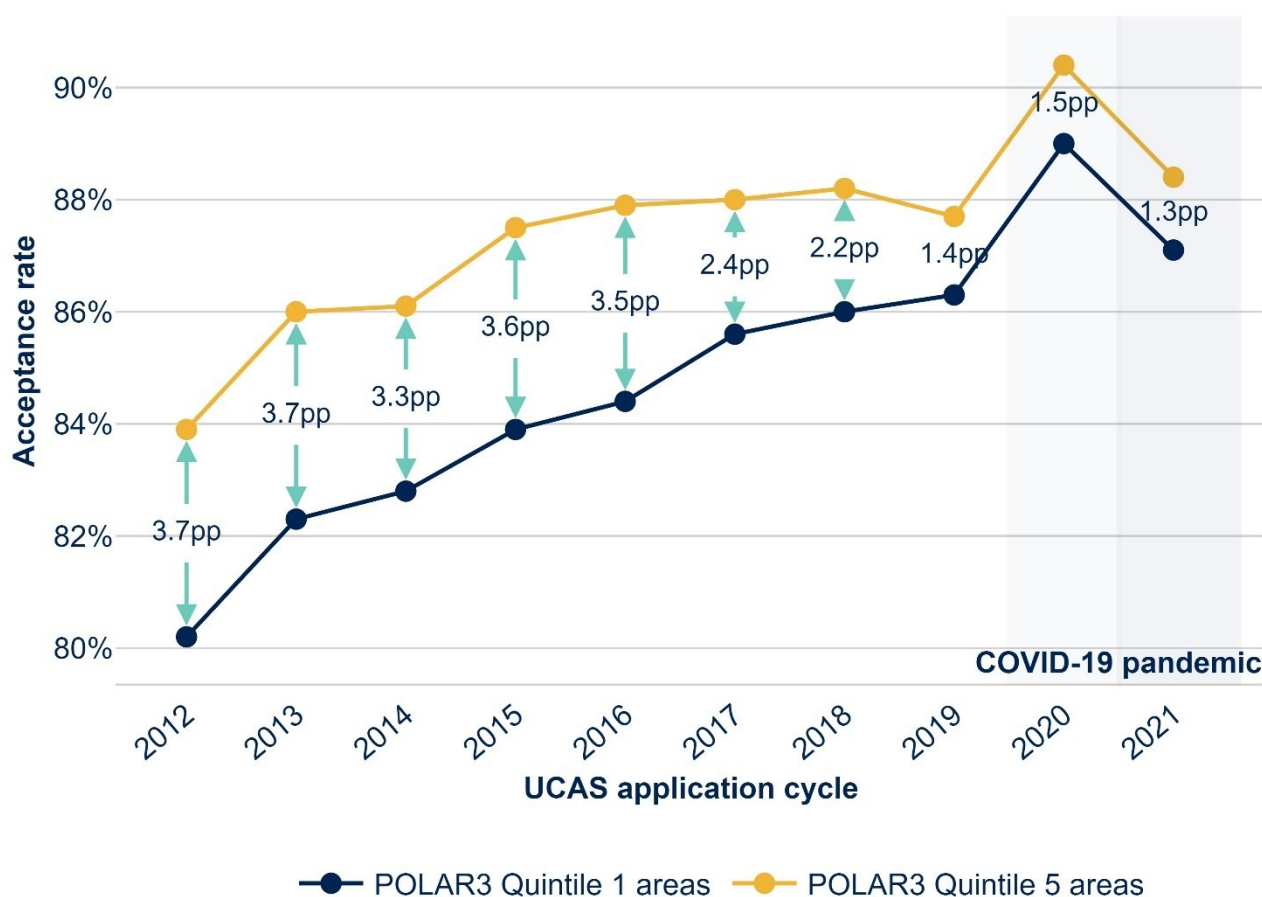
69. If this gap in acceptance rates closed entirely, then the gap in the placed rate would only reduce from 26.5 to 25.2 percentage points. This demonstrates that the greatest area for improvement in terms of closing the gap in participation between learners from POLAR3 quintiles 1 and 5 is in closing the gap in application rates. These findings are summarised in Table 3 below.

70. Table B3 in Annex B reports the number of learners in the Key Stage 4 population living in POLAR3 quintile 1 areas and the number living in quintile 5 areas for each cohort applying at age 18 between the 2016 and 2021 UCAS application cycles. These are the underlying numbers of learners from which the application rates, high tariff application rates and placed rates in Figures 2 to 5 above are calculated.

Table 3: Gaps in outcomes measures between learners from POLAR quintile 1 and quintile 5 areas

Application outcome	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Gap in application rates	27.9pp	27.8pp	27.4pp	27.0pp	27.8pp	27.9pp	27.8pp	27.7pp	27.9pp	29.6pp
Gap in high tariff application rates	22.4pp	22.9pp	23.6pp	23.5pp	24.5pp	25.2pp	25.3pp	25.8pp	25.9pp	27.3pp
Gap in placed rates	24.1pp	24.6pp	24.2pp	24.4pp	25.2pp	25.1pp	25.0pp	24.6pp	25.6pp	26.5pp
Gap in offer rates	2.9pp	2.0pp	1.9pp	1.6pp	1.4pp	1.0pp	0.8pp	0.4pp	0.5pp	0.4pp
Gap in acceptance rates	3.7pp	3.7pp	3.3pp	3.6pp	3.5pp	2.4pp	2.2pp	1.4pp	1.5pp	1.3pp

Application outcomes by Uni Connect areas

71. Having seen the gaps in application outcomes between the most and least represented areas which the Uni Connect programme was designed to address, this section presents the trends in these same outcomes in the areas where Uni Connect partnerships have targeted their outreach activity.

72. But we first consider the way in which these areas have been targeted and attempt to quantify the extent of engagement in them.

Uni Connect target areas

73. Uni Connect partnerships focus their work on areas where higher education participation is not only low in absolute terms, but also lower than might be expected given the GCSE results of young people in that area. These areas were chosen because they have the greatest potential for improvement in participation from the least represented areas. In this report, we refer to these areas as 'Uni Connect target areas' or simply 'Uni Connect areas'. In practice, partnerships usually deliver outreach activity within schools and colleges, which are targeted because they teach high proportions of learners from Uni Connect areas.[29]

74. It is important to note that we cannot identify individual learners who have engaged with the Uni Connect programme. We can only identify learners who were living in Uni Connect areas while in Key Stage 4. For this reason, this analysis cannot show the impact of Uni Connect in raising participation among learners who were directly engaged by the programme. It can only show whether the Uni Connect programme appears to be associated with improved participation rates in targeted areas. As the following section shows, it is possible that outreach activity is beneficial for learners who are directly engaged by the programme, but that the scale of this outreach is insufficient to have any meaningful impact on a national level, and therefore cannot be seen in the findings of this analysis.

75. Another limitation is that if a learner moves area after their final Key Stage 4 year, we have not been able to track this movement in the data. These learners would remain recorded as living in a Uni Connect area in our analysis. Equally, learners recorded as living in a non-Uni Connect area in Key Stage 4 who subsequently moved to a Uni Connect area would remain recorded as living in a non-Uni Connect area.

76. Table B1 in Annex B provides population counts of learners living in Uni Connect areas and those living in other areas, split by various personal characteristics.

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[29] Learners at the same school or college who are not from a Uni Connect area may also benefit from this engagement; this is called a spillover effect. Later in this report, we attempt to minimise these spillover effects by removing from the analysis any learners who did not live in Uni Connect areas, but did attend a school or college that Uni Connect partnerships may have worked with.

Quantifying the extent of Uni Connect engagement in target areas

77. Uni Connect partnerships were set a goal to engage with at least 20 per cent of learners in target areas in phase one and two of the programme.[30] Analysis in this section shows that 17.2 per cent of learners in these areas from the most recent cohort received the full level of engagement that the programme envisaged, although nearly all received some engagement. These findings suggest that the impact of the Uni Connect programme may be limited by its scale.

78. Table 5 below (and previously Figure 1) show how each cohort analysed in this report has had an increasing number of potential years of Uni Connect engagement compared with the last. In theory, the most recent cohorts, with the greatest potential engagement, should allow for the most complete assessment of whether Uni Connect's sustained and progressive outreach is associated with any improvement in participation rates. However, as previously discussed, the nature of this engagement for the two most recent cohorts was disrupted by the COVID-19 pandemic.

Table 5: The six cohorts analysed in the following section

Potential number of full years of Uni Connect engagement	Year 9	GCSE summer (end of Key Stage 4)	UCAS application cycle
0	2011-12	2014	2016
0	2012-13	2015	2017
1	2013-14	2016	2018
2	2014-15	2017	2019
3*	2015-16	2018	2020
4*	2016-17	2019	2021

Note: An asterisk (*) indicates that Uni Connect engagement was disrupted by the COVID-19 pandemic for this cohort.

79. Although we cannot directly identify individual learners who have engaged with the Uni Connect programme, or for how long, we can identify schools that Uni Connect partnerships intended to engage with. This is possible through 'activity monitoring' data returned by partnerships. For more recent cohorts, information collected through 'tracking reports' further reveals the number of hours of activity delivered within schools over a given period.[31] Ultimately, this allows us to identify learners from Uni Connect areas who appear to have

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[30] See 'Meeting targets and milestones' in 'NCOP: end of phase one report for the national formative and impact evaluations', available at www.officeforstudents.org.uk/publications/ncop-end-of-phase-one-evaluation-report/. For phase two, see paragraph 13 of 'National Collaborative Outreach Programme Phase two guidance' available at www.officeforstudents.org.uk/publications/national-collaborative-outreach-programme-phase-two-guidance/.

[31] The OfS 'Uni Connect annual report: Phase two (August 2019 to July 2020)' contains further information about the engagement activity carried out during phase two. See www.officeforstudents.org.uk/publications/uni-connect-annual-report-phase-two/.

attended a school which received Uni Connect engagement while they were likely to be studying there. We can then estimate the total number of years of engagement that each learner has received.[32]

80. Table 6 below shows the number and proportion of each cohort of learners from Uni Connect areas according to the number of years of engagement that their Key Stage 4 school is recorded as having received, while they could have been in attendance. Population totals for each cohort can be found in Table B1 in Annex B.

81. This shows that a diminishing group of learners from Uni Connect areas attended a school with no recorded engagement whatsoever. In the most recent cohort, just 10.5 per cent of learners from Uni Connect areas are identified as having attended a school in Key Stage 4 which was never recorded to have received any Uni Connect engagement while they were likely to be studying there.

Table 6: Number and proportion of each cohort of learners from Uni Connect areas according to the number of years of engagement that their Key Stage 4 school received

GCSE summer	UCAS application cycle	Statistic	No engagement	Less than 1 year	At most 1 full years	At most 2 full years	At most 3 full years	At most 4 full years
2014	2016	Counts	90,450					
		Proportions	100.0%					
2015	2017	Counts	69,890	19,585				
		Proportions	78.1%	21.9%				
2016	2018	Counts	20,745	46,025	19,635			
		Proportions	24.0%	53.3%	22.7%			
2017	2019	Counts	17,500	785	47,805	17,350		
		Proportions	21.0%	0.9%	57.3%	20.8%		
2018	2020	Counts	11,470	445	15,685	39,910	15,300	
		Proportions	13.9%	0.5%	18.9%	48.2%	18.5%	
2019	2021	Counts	8,975	490	11,760	20,165	29,710	14,760
		Proportions	10.5%	0.6%	13.7%	23.5%	34.6%	17.2%

Note: Counts are rounded to the nearest five, while proportions are rounded to one decimal place.

82. Despite this widespread engagement among learners in target areas, Table 6 also shows that only around one in five learners from these areas received the full amount of engagement available for their cohort. This tallies with the 20 per cent engagement target which was agreed for Uni Connect partnerships in phase one and two of the programme, as previously discussed.

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[32] These estimates rest on two assumptions. Firstly, because we only know the school each learner attended in Key Stage 4, we cannot track movement between schools after this time, thereby assuming that no learner changes schools after Key Stage 4. The second assumption applies to only the two most recent cohorts of learners (those applying in 2020 and 2021) for whom we require that schools must have received at least 10 hours of outreach activity to be counted as having received Uni Connect engagement within a given year.

83. Table 6 is therefore important, because it suggests that the national impact of the Uni Connect programme is likely to be limited by the scale of the programme, with just 17.2 per cent of learners in target areas in the most recent cohort receiving the full amount of engagement intended in the programme design.

Gaps in application outcomes

84. This section presents application outcomes for learners from Uni Connect target areas (whether their Key Stage 4 school has been identified as having received Uni Connect engagement or not). It compares these outcomes with those of learners from other areas, which are shown to have followed a similar pattern to the differences presented previously between learners from the most and least represented areas, as indicated by POLAR3. These trends are characterised by large persistent gaps in application rates and placed rates between those living in Uni Connect areas and those not, with much smaller gaps in offer rates and acceptance rates between these groups.

85. As we would expect, there is considerable overlap between Uni Connect areas and POLAR3 quintile 1 areas, with 84 per cent of learners in POLAR3 quintile 1 areas also living in Uni Connect areas. This is because these areas were specifically chosen as those with the greatest potential to increase participation from the least represented areas.

86. Because of this overlap, the trends in the application process for learners from Uni Connect areas and those from other areas follow a very similar pattern as described for POLAR3 quintiles 1 and 5 previously.

87. Nonetheless, some learners in POLAR3 quintile 1 areas will not have been targeted by the Uni Connect programme, because although their area had low participation rates, the average GCSE attainment was also relatively low. If the Uni Connect programme is having an impact on participation rates, we would expect to see this more clearly among learners from targeted areas, than we would for POLAR3 quintile 1 areas more broadly.

88. Another important difference is that learners from non-Uni Connect areas are a much larger group than those from POLAR3 quintile 5 areas, which only includes learners from areas in the top-fifth of participation rates across the UK. For this reason, the application rates for learners living outside Uni Connect areas are consistently lower than those presented above for POLAR3 quintile 5 learners.

89. In spite of these differences, Figure 8 shows that application rates have been increasing by approximately the same amount each year in both Uni Connect target areas and other areas. The gap in application rates therefore remained broadly unchanged between 2012 and 2020, before widening by 1.2 percentage points between 2020 and 2021.

Figure 8: Gaps in application rates between Uni Connect and non-Uni Connect areas
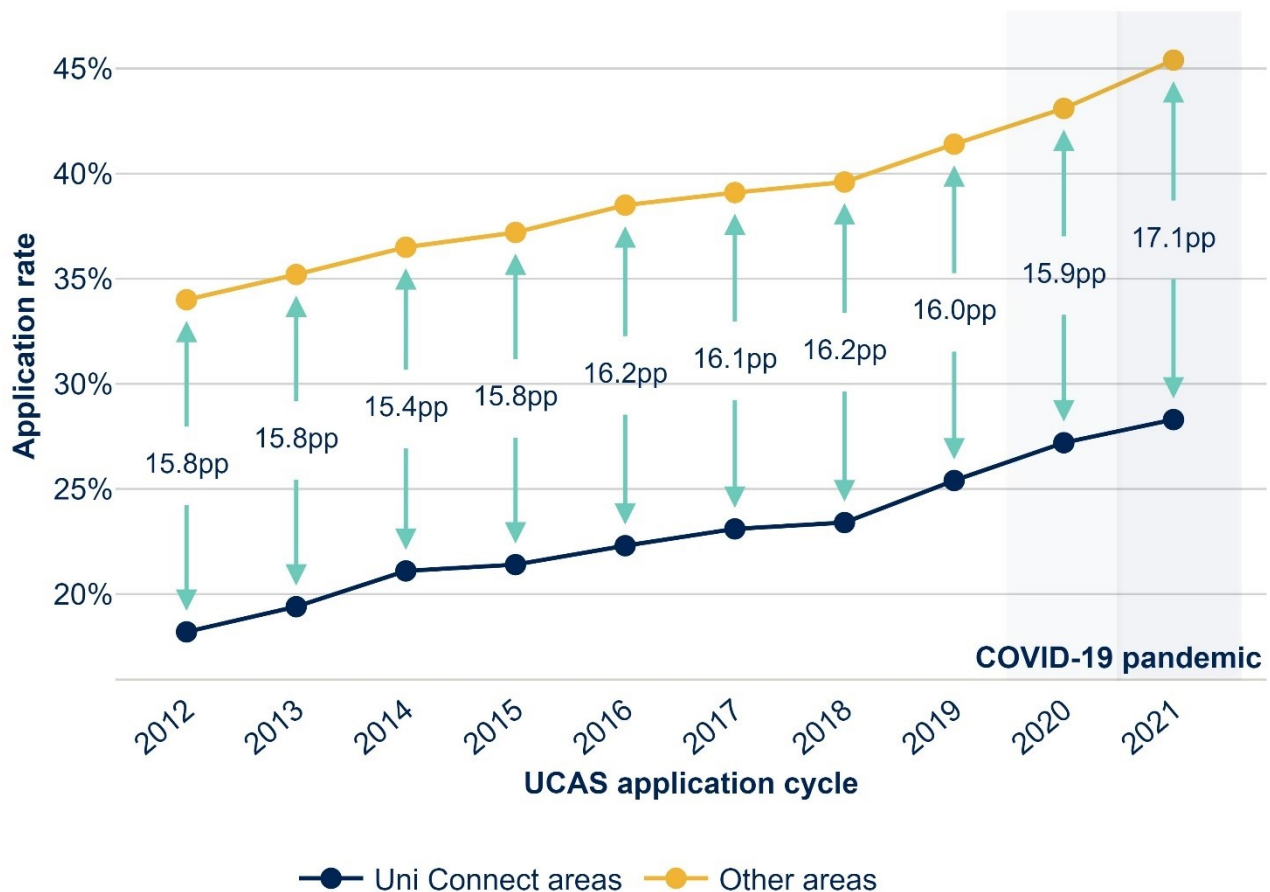
90. Figure 9 shows that the gap in high tariff application rates initially widened from 11.4 percentage points in 2012 to 13.2 percentage points in 2016 (a year before the Uni Connect programme launched), before increasing further to 13.9 percentage points by 2020, then finally widening more substantially to 14.8 percentage points in the 2021 cycle, which was disrupted by the COVID-19 pandemic.

Figure 9: Gaps in high tariff application rates between Uni Connect and non-Uni Connect areas
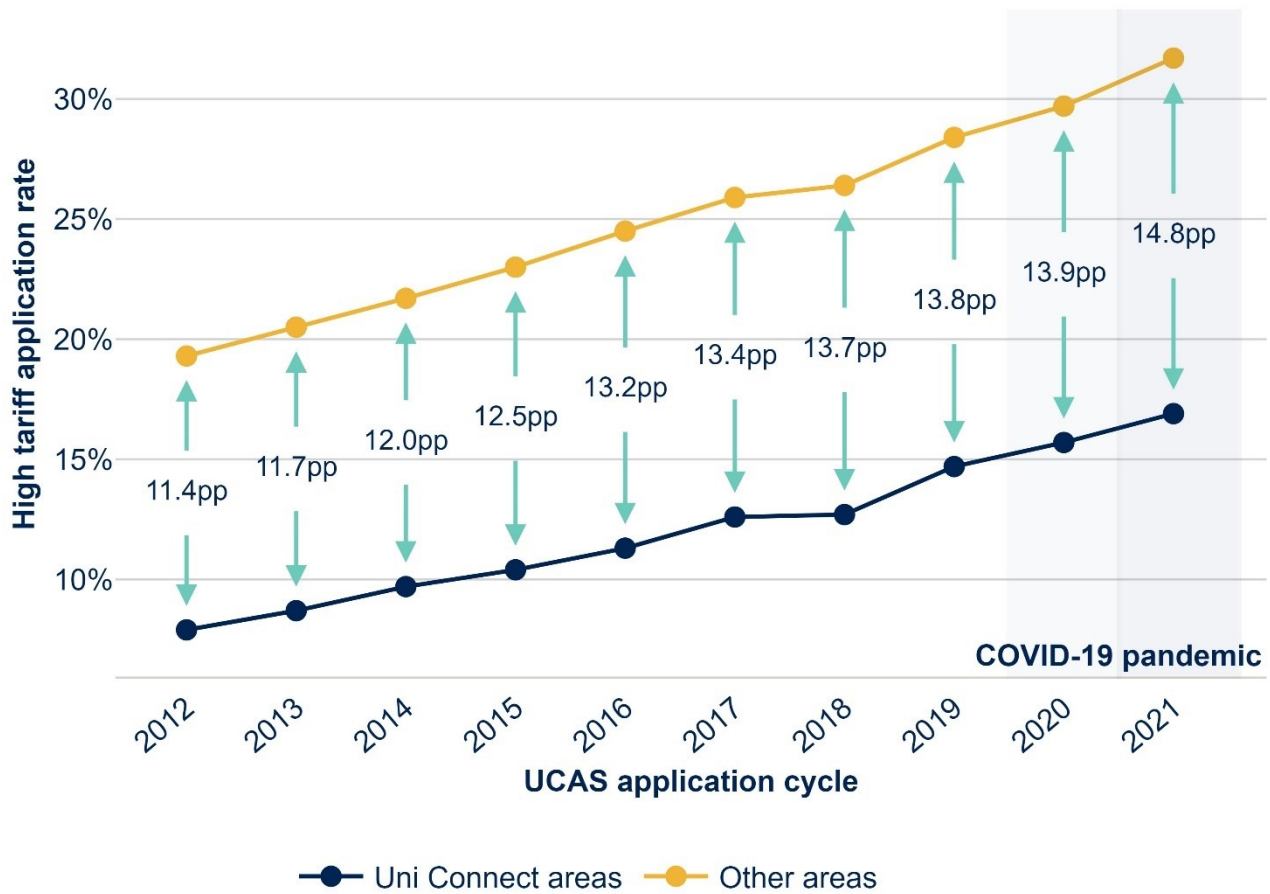
91. Figure 10 shows that, compared with the gap in application rates, the gap in placed rates increased more gradually throughout the period, rising from 13.5 percentage points in 2012 to 15.2 percentage points in 2021.

Figure 10: Gaps in placed rates between Uni Connect and non-Uni Connect areas
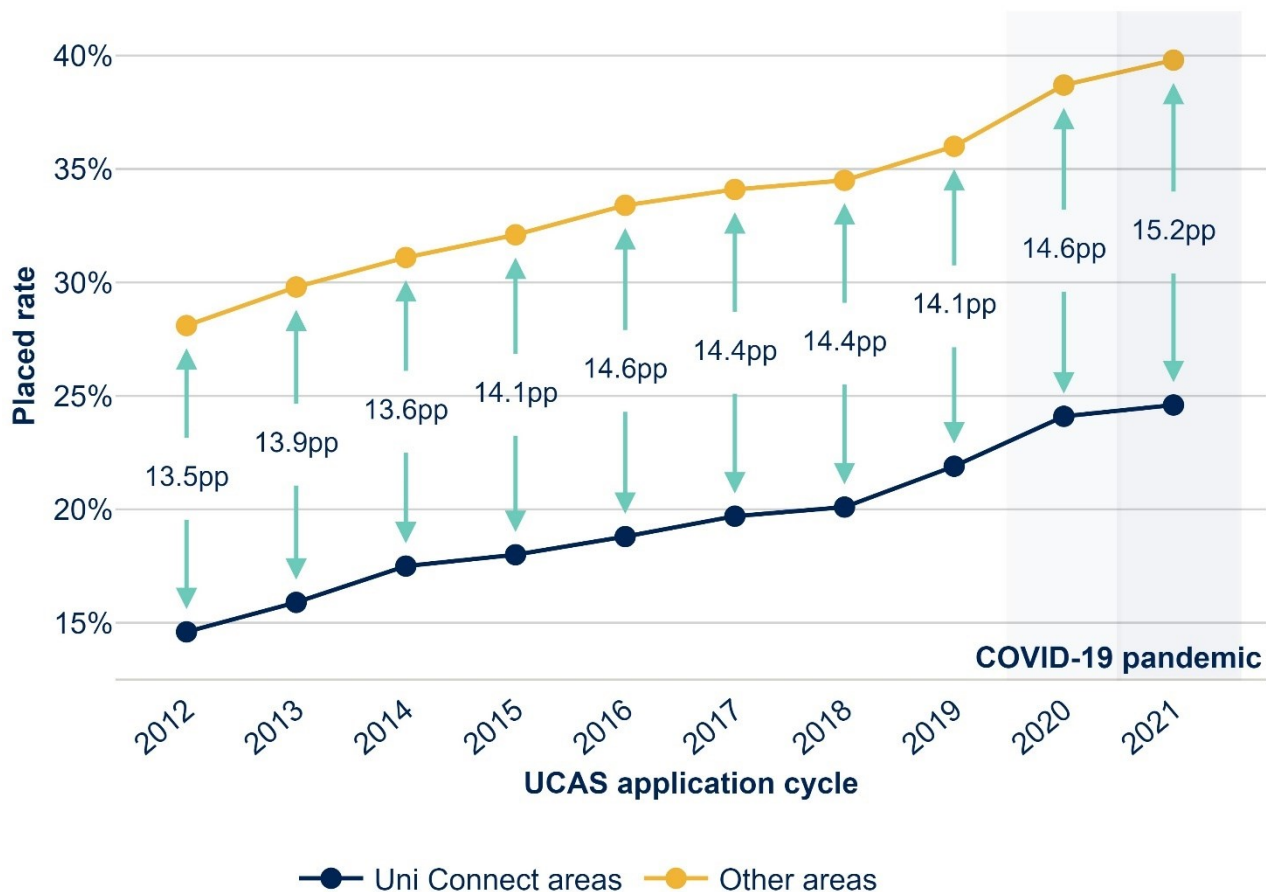
92. Meanwhile, the gap in offer rates decreased from 1.0 percentage point in 2016, before the launch of the Uni Connect programme, to just 0.2 percentage points in 2021. As Figure 11 shows, this is because offer rates began to flatten out for learners living outside Uni Connect target areas, while offer rates among learners from Uni Connect areas continued to rise. This was a continuation of the trend in the gap since 2012.

Figure 11: Gaps in offer rates between Uni Connect and non-Uni Connect areas
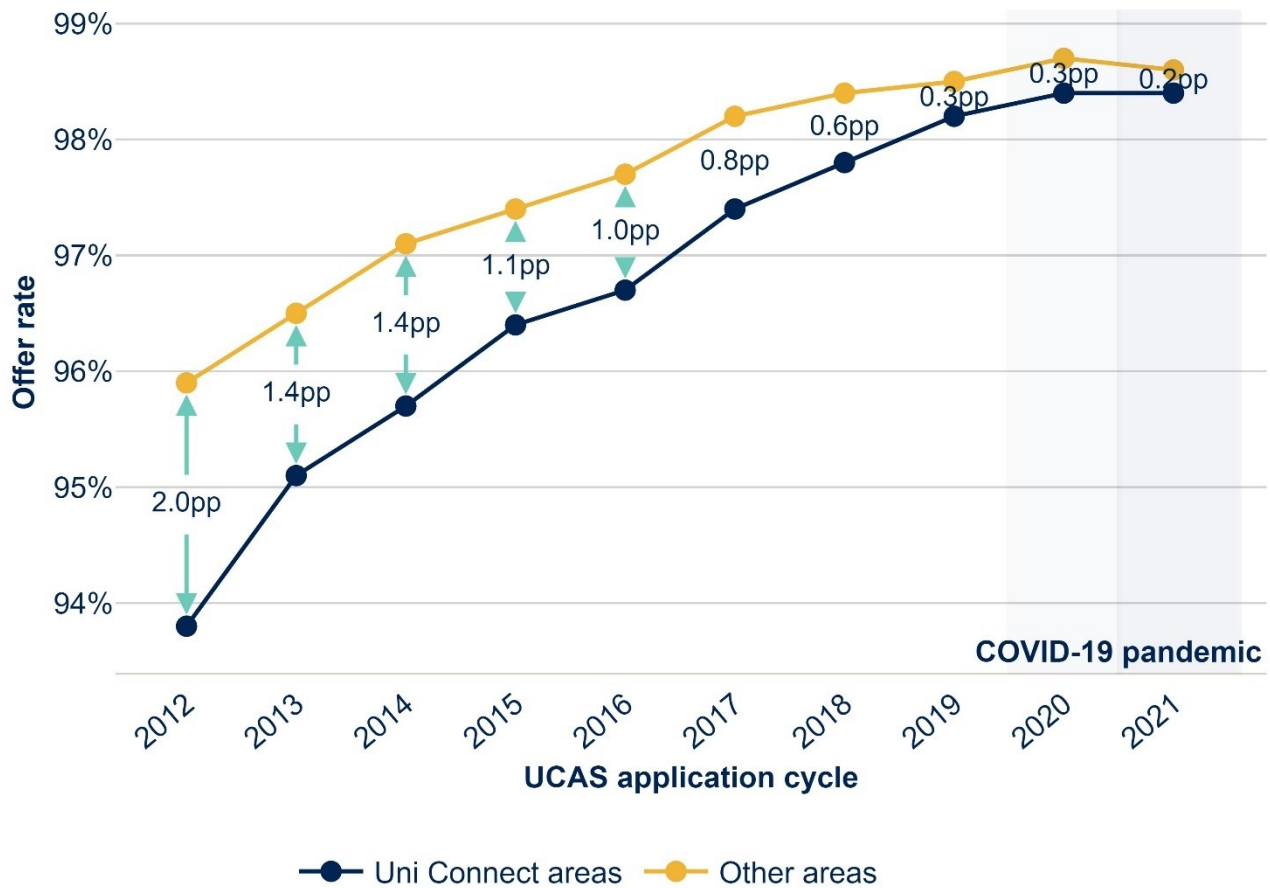
93. The gap in acceptance rates decreased from 2.5 percentage points in 2016 to 0.7 percentage points in 2021, as shown in Figure 12. By contrast, between 2012 and 2016, the gap remained between 2.2 to 2.6 percentage points.

Figure 12: Gaps in acceptance rates between Uni Connect and non-Uni Connect areas
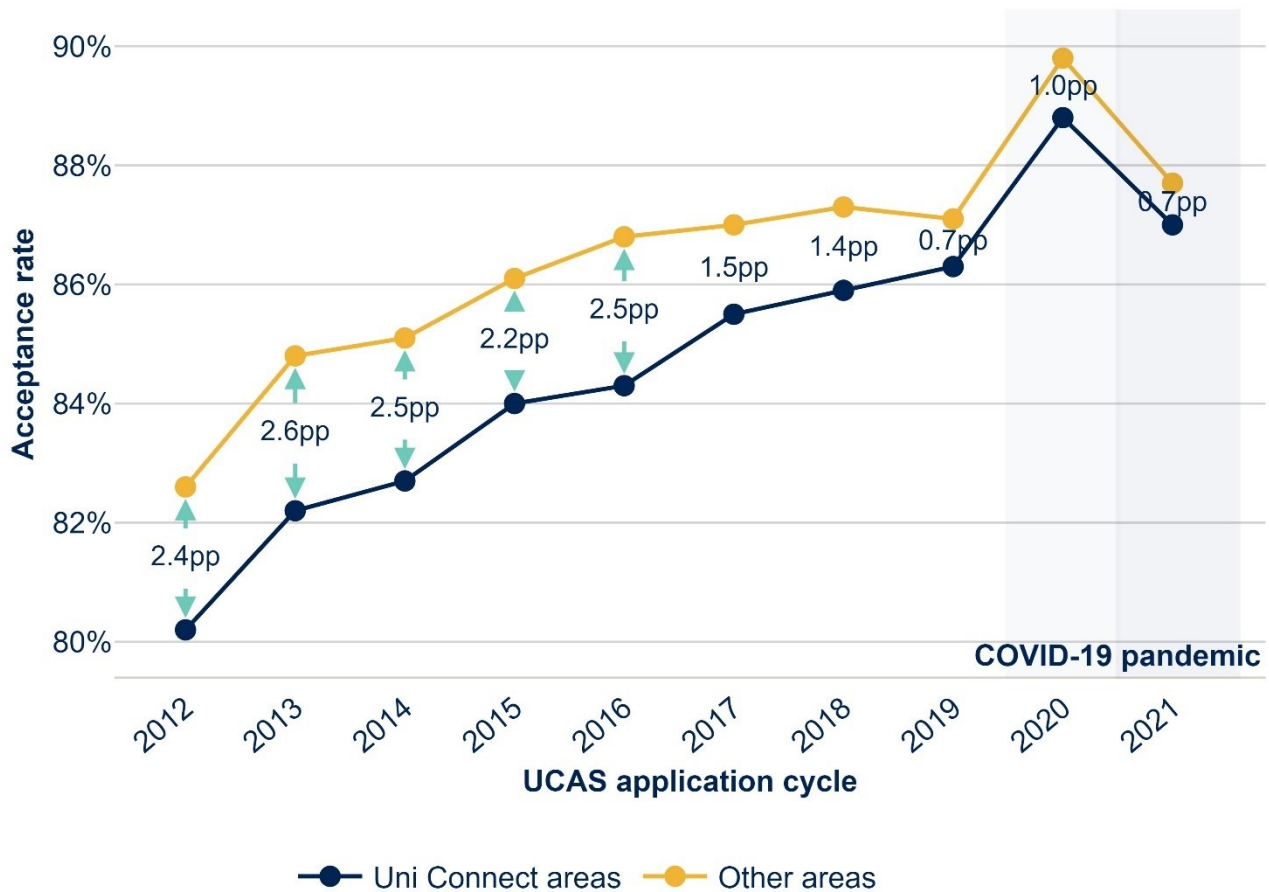
94. These findings are summarised in Table 4 below.

Table 4: Summary of gaps in application outcomes between learners from Uni Connect areas and non-Uni Connect areas

Outcome	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Gap in application rates	15.8pp	15.8pp	15.4pp	15.8pp	16.2pp	16.1pp	16.2pp	16.0pp	15.9pp	17.1pp
Gap in high tariff application rates	11.4pp	11.7pp	12.0pp	12.5pp	13.2pp	13.4pp	13.7pp	13.8pp	13.9pp	14.8pp
Gap in placed rates	13.5pp	13.9pp	13.6pp	14.1pp	14.6pp	14.4pp	14.4pp	14.1pp	14.6pp	15.2pp
Gap in offer rates	2.0pp	1.4pp	1.4pp	1.1pp	1.0pp	0.8pp	0.6pp	0.3pp	0.3pp	0.2pp
Gap in acceptance rates	2.4pp	2.6pp	2.5pp	2.2pp	2.5pp	1.5pp	1.4pp	0.7pp	1.0pp	0.7pp

Estimating changes in gaps in application outcomes after taking other factors into account

95. Analysis in this section shows that, even after taking into account differences in observed characteristics between learners from Uni Connect areas and those from other areas, the gap in application rates between these two groups has widened (statistically significantly) since the launch of the Uni Connect programme.[33]

96. The gap in placed rates and the gap in high tariff application rates are both estimated to have increased slightly since 2016, although neither of these increases is found to be statistically significant.

97. However, for the 2021 cohort in particular, it is impossible to definitively separate the impact of the pandemic from that of the Uni Connect programme. Ultimately, the extent to which the findings of this analysis are distorted by the impact of the pandemic will depend on the extent to which any pandemic-related behaviour is different for those living in Uni Connect areas and those not (after these learners are matched on a set of characteristics as described below).

Matched counterfactual analysis

98. It is possible that the trends in application outcomes presented so far are the result of factors other than the Uni Connect programme itself. It might be that the composition and characteristics of the two groups of learners are changing over time, which is influencing the gaps in application outcomes.

99. This section presents the findings of a statistical approach called 'exact matching', described in Annex D, which enables us to estimate the change in the gap in application rates between 2016 (before Uni Connect started) and 2021 (four years after its launch), after differences in characteristics between the two groups of learners are taken into account. This approach works by comparing learners from Uni Connect areas against a group of learners with the same mix of characteristics, thereby reducing underlying differences in characteristics between the two groups which might influence application outcomes over time.

Annex D provides a technical description of this statistical approach, as well as details of further population restrictions implemented at this stage of the analysis to minimise spillover effects.

100. It should be noted that this approach can only account for underlying differences in characteristics between groups of learners to the extent that this information is available in the NPD data. There will of course be factors, such as family support or individual motivation, which we cannot control for because they are not captured in the data. Nonetheless, because we know that some underlying factors differ between learners from Uni Connect target areas and those from other areas – and that these factors are associated with application outcomes – it remains informative to account for these differences as far as possible.

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[33] Statistical significance is reported at the 95 per cent confidence level throughout this report.

101.   We now therefore present the factors which we want to take into account through exact matching.

102.   The OfS analysis 'Association Between Characteristics of Students' (ABCS) found that ethnicity, eligibility for free school meals, sex, and area-based background measures such as POLAR, are all associated with young participation in higher education.[34] We also know that these characteristics vary between learners from Uni Connect areas and those from other areas. For example, 37.8 per cent of learners from Uni Connect areas received free school meals, compared with 23.2 per cent in non-Uni Connect areas.[35] Among those with five or more GCSEs at grade A* to C (or 9 to 4), 26.8 per cent of learners from Uni Connect areas had been in receipt of free school meals, compared with 17.4 per cent of learners from non-Uni Connect areas.[36]

103.   In addition to these personal characteristics, Annex A shows that there continues to be a very strong positive relationship between prior academic attainment, as measured by the number of GCSEs held at grade A* to C (or 9 to 4), and the likelihood of applying to higher education. It also shows that this relationship differs between learners from Uni Connect areas and those from other areas, with gaps in application outcomes opening up between these groups for learners with at least five GCSEs at grade A* to C (or 9 to 4). Learners without these grades are excluded from this part of the analysis because they are unlikely to have been targeted by the Uni Connect programme.

104.   Moreover, learners who have not achieved a 'standard pass' (a grade of C (or 4) or above) in English or Maths at Key Stage 4 tend to have much lower rates of progression into higher education. Once again, the proportions of learners with a 'standard pass' in these subjects varies across Uni Connect areas; 41.3 per cent of learners from Uni Connect areas complete Key Stage 4 without gaining a 'standard pass' at English GCSE compared with 28.0 per cent of other learners. This is similar to Maths GCSE, in which 41.1 per cent of learners from Uni Connect areas and 27.5 per cent of other learners did not achieve a 'standard pass'.

105.   Therefore, sex, ethnicity, free school meal status, the number of GCSEs at grade A* to C, as well as having achieved a 'standard pass' in English and Maths GCSE were all included as matching criteria in the following analysis. No further area-based measures, such as Index of Multiple Deprivation (IMD) or Income Deprivation Affecting Children Index (IDACI) quintiles, were included as matching criteria because it was our aim to focus on Uni Connect areas as the area-based measure of background.[37] A summary of the numbers and proportions of learners with each of these characteristics can be found in Annex B of this report.

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[34] See the ABCS dashboard at www.officeforstudents.org.uk/data-and-analysis/associations-between-characteristics-of-students/access-to-higher-education/.

[35] See Table B1 in Annex B for proportions of learners in the Key Stage 4 population with different characteristics.

[36] See Table B2 in Annex B.

[37] Although the findings of a sensitivity analysis where IMD was included as one of the matching criteria are presented later in this report.

106.   In practice, this means that in the analysis that follows, the group of learners being compared with those from Uni Connect areas has the same mix of these listed characteristics. The key difference is that one group was living in Uni Connect areas in Key Stage 4, while the other was not. Although there will of course be other unobserved differences and even differences within the categories of matched characteristics, such as the exact GCSE grades achieved by each learner beyond the number of 'standard passes'.

107.   The group of learners from non-Uni Connect areas is known as the 'matched counterfactual' group, because it represents a hypothetical situation where learners from Uni Connect areas had instead come from non-Uni Connect areas. We repeated this hypothetical situation 1,000 times to ensure the findings we obtained were not simply by chance. This gives us 1,000 different matched counterfactual groups whose application outcomes we can then compare against the same group of learners from Uni Connect areas each time.

108.   The datafile associated with this report contains the estimates for all 1,000 matched counterfactual groups, in addition to the sampling rates for each of these groups.
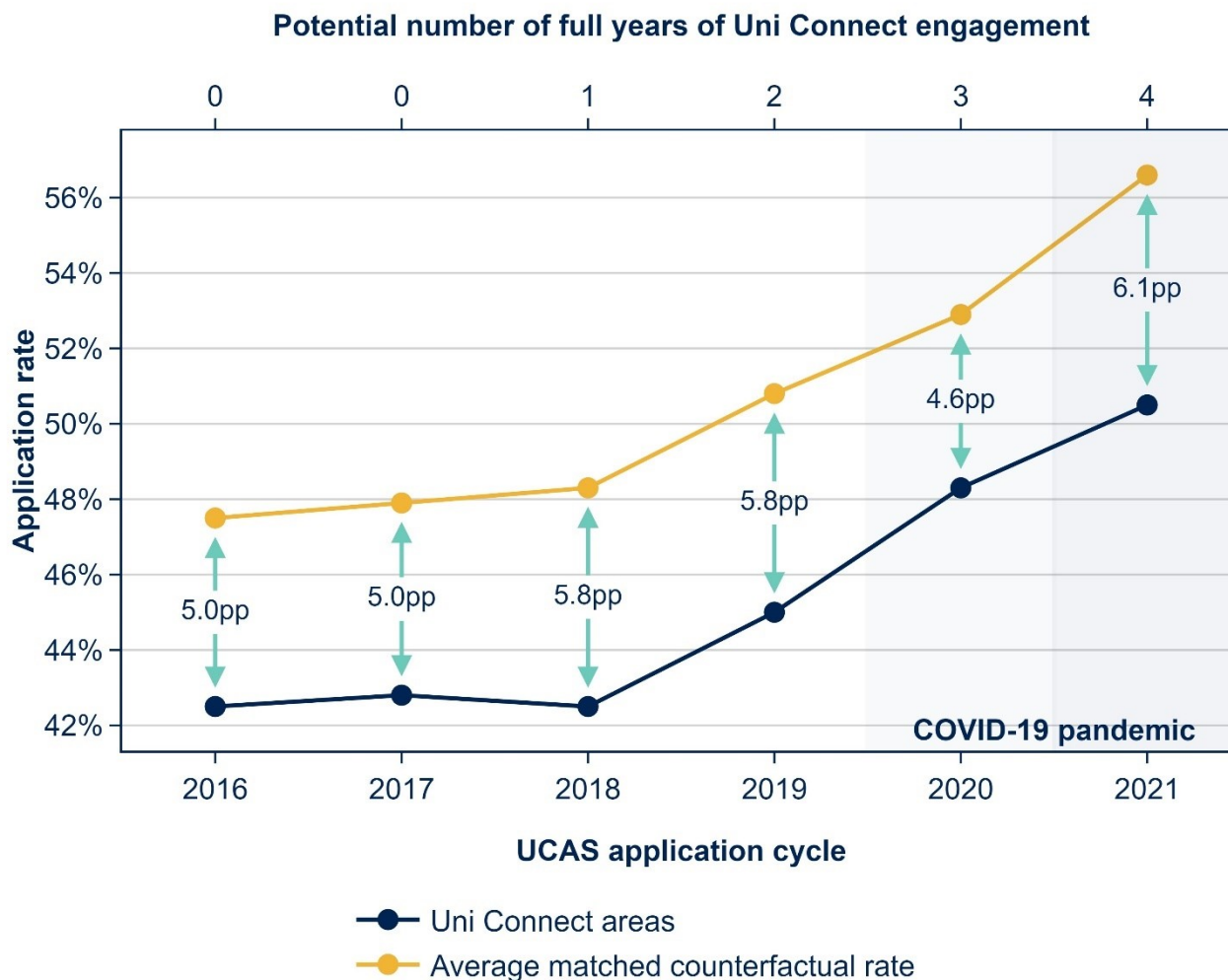
Findings

Application rates

109.   Figure 13 below shows the difference in application rates between learners from Uni Connect areas and the average application rate of all 1,000 matched counterfactual groups. This gap is clearly much smaller than the observed gap for the whole population, as was shown in Figure 8. In fact, in the 2021 application cycle, the observed gap in application rates for the whole population stood at 17.1 percentage points, compared with just 6.1 percentage points after underlying differences in characteristics between the two groups were taken into account through matching.

110.   This reduction in the gap after matching suggests that, as previously stated, at least some of the characteristics used for matching are: (a) associated with application rates; and (b) unequally distributed across the two groups of learners. In other words, matching ensures that the remaining gap in application rates can no longer be accounted for by differences in matched characteristics. Instead, the only known difference between the two groups is that one was living in a Uni Connect target area and the other was not (although there will remain other unobserved differences).

111.   Therefore, if this gap is found to be narrowing over time, this would suggest that the Uni Connect programme is associated with a relative improvement in application rates in targeted areas, after controlling for differences in characteristics between the two groups of learners in terms of matched characteristics. This would suggest the primary aim of the Uni Connect programme, to raise participation in underrepresented areas, is being met.

112.   However, Figure 13 appears to show that the average gap across all 1,000 matched counterfactual groups was wider in the 2021 application cycle (which was affected by the COVID-19 pandemic), at 6.1 percentage points, compared with the 5.0 percentage points gap in 2016, before the Uni Connect programme began. This appears to have reversed a narrowing of the gap in the 2020 cycle, which then stood at 4.6 percentage points.

Figure 13: Gap in application rates between learners from Uni Connect areas and the average application rate of 1,000 matched counterfactual groups of learners from non-Uni Connect areas

Potential number of full years of Uni Connect engagement

UCAS application cycle

113.   However, Figure 13 above does not show the statistical uncertainty around these estimates. It only shows the gap in application rates between learners from Uni Connect areas and the **average** of all 1,000 matched counterfactual groups. For some of the matched counterfactual groups, the change in the gap was larger, while for others it was smaller.

114.   Figure 14 below, known as a 'violin plot', shows the full range of estimated changes in the application gap across all 1,000 matched counterfactual groups within each cohort. The shaded areas show the range of estimated changes in the gap for each year since 2016, with wider sections indicating a higher probability that the change in the gap is equal to the value along the vertical axis. The labels in bold represent the average estimated change in the gap, which correspond exactly to the change in the gaps since 2016, which are shown in Figure 13 above.

115.   To give a sense of the range within which we can be confident that the true value lies, the upper and lower labels on the chart indicate the 25th and 975th estimates in order of size. These

are equivalent to confidence intervals at the 95 per cent level; we can be 95 per cent confident that the true change in the gap lies within this range.[38]

116.   As Figure 14 shows, in the 2021 application cycle, there is statistically significant evidence that the gap in application rates has widened since the Uni Connect programme began in 2016, by between 0.5 and 1.7 percentage points, even after accounting for differences in characteristics between learners from Uni Connect areas and other areas in matched characteristics. This contrasts with the movement in the previous application cycle in 2020, where we are unable to conclude that the gap in application rates had changed at all since 2016, with estimates ranging between -1.0 and 0.2 percentage points at the 95 per cent confidence level.

Figure 14: Estimated percentage point change in gap in application rates since 2016 after taking into account differences in matched characteristics between learners
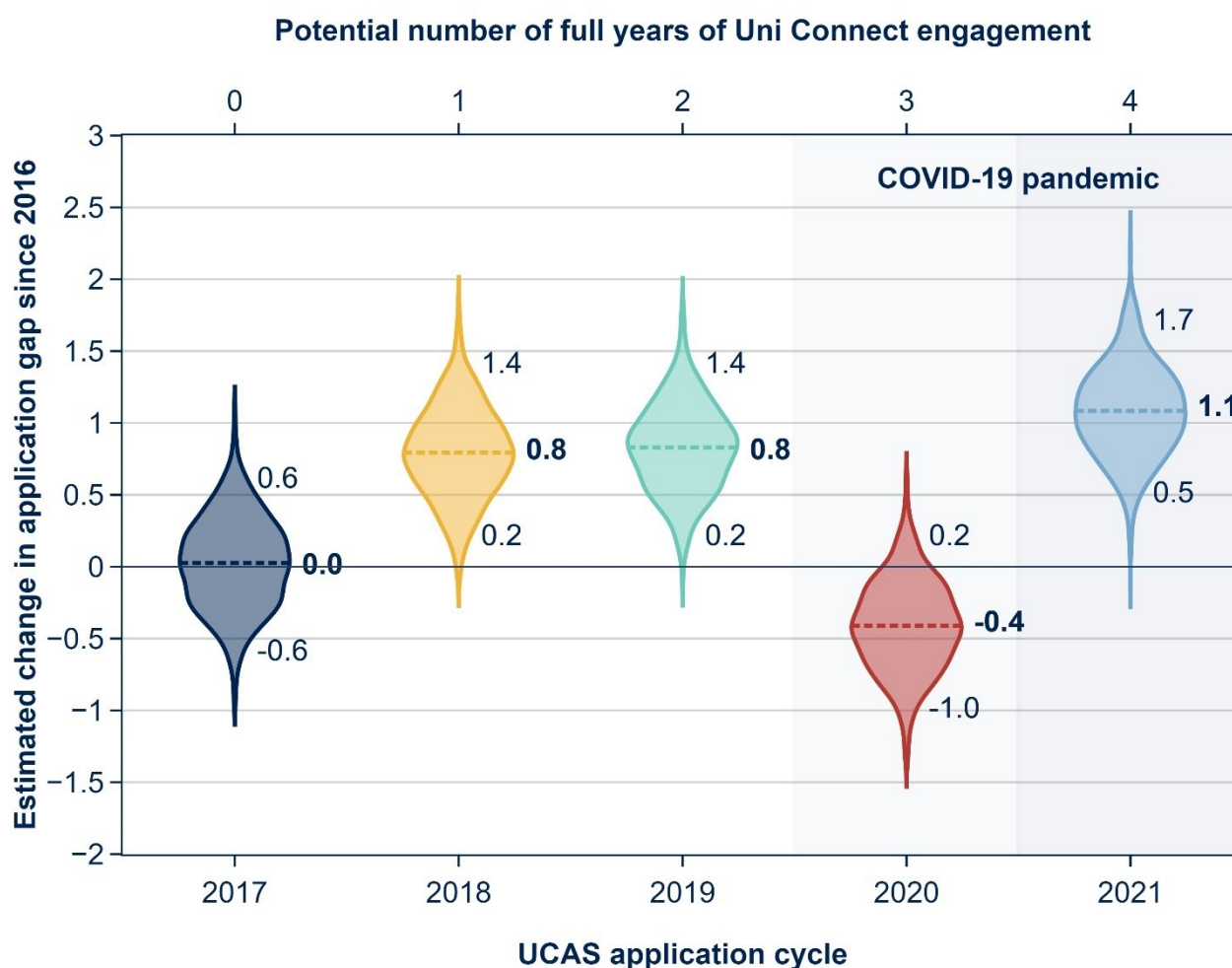
117.   It is worth recalling the context around these estimated changes. First, even the most recent cohort applying in 2021 had not yet had the opportunity to benefit from the five full years

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[38] Equivalently, if we were to take new random samples, we would expect the change in the gap to lie within that range 19 times out of 20. We have made no adjustment for multiple comparisons in the calculation of these non-parametric intervals.

of sustained and progressive outreach intended in the programme design. Moreover, less than one in five learners in this cohort are understood to have attended a school in Key Stage 4 which was later recorded as having engaged with the Uni Connect programme in all four subsequent years.

118.   Second, both the 2020 and 2021 cohorts were applying (or at least receiving offers) during the COVID-19 pandemic. For the 2021 cohort in particular, the gap in application rates is likely to have been influenced by both the pandemic and the Uni Connect programme. It is impossible to definitively separate their impact, or to know the application rates of learners in target areas, had they not engaged with the Uni Connect programme. Nonetheless, the reason for ensuring the two groups had the same mix of personal characteristics was to minimise any underlying differences between them, including their behaviour in response to the pandemic. Therefore, the extent to which the pandemic may be influencing the estimated change in the application gap over time depends on whether the behavioural response to the pandemic of those living in Uni Connect areas was the same as those who were not, even after ensuring these groups had the same mix of personal characteristics.

Placed rates

119.   The same analysis described above was carried out on the gap in placed rates, which is defined as the proportion of the Key Stage 4 population which were placed on a higher education course at age 18 by the end of the application cycle.

120.   Recall that the gap in placed rates is the application outcome closest aligned to the aim of the Uni Connect programme which this report is intended to evaluate, but that the gap in application rates was found to make the single greatest contribution to the gap in placed rates.

121.   As previously shown in Figure 10, the gap in placed rates between learners from the Uni Connect areas and those from other areas widened from 14.6 percentage points in 2016 to 15.2 percentage points in 2021, for the Key Stage 4 population as a whole.

122.   Figure 15 below shows that a similar trend can be seen in the gap in placed rates when compared with the gap in application rates, after differences in matched characteristics are taken into account. The gap in placed rates initially narrowed, from 4.8 percentage points in 2016 to 4.4 percentage points in 2020, before widening again in 2021 to 5.3 percentage points.

Figure 15: Gap in placed rates between learners from Uni Connect areas and the average placed rate of 1,000 matched counterfactual groups of learners from non-Uni Connect areas

Potential number of full years of Uni Connect engagement
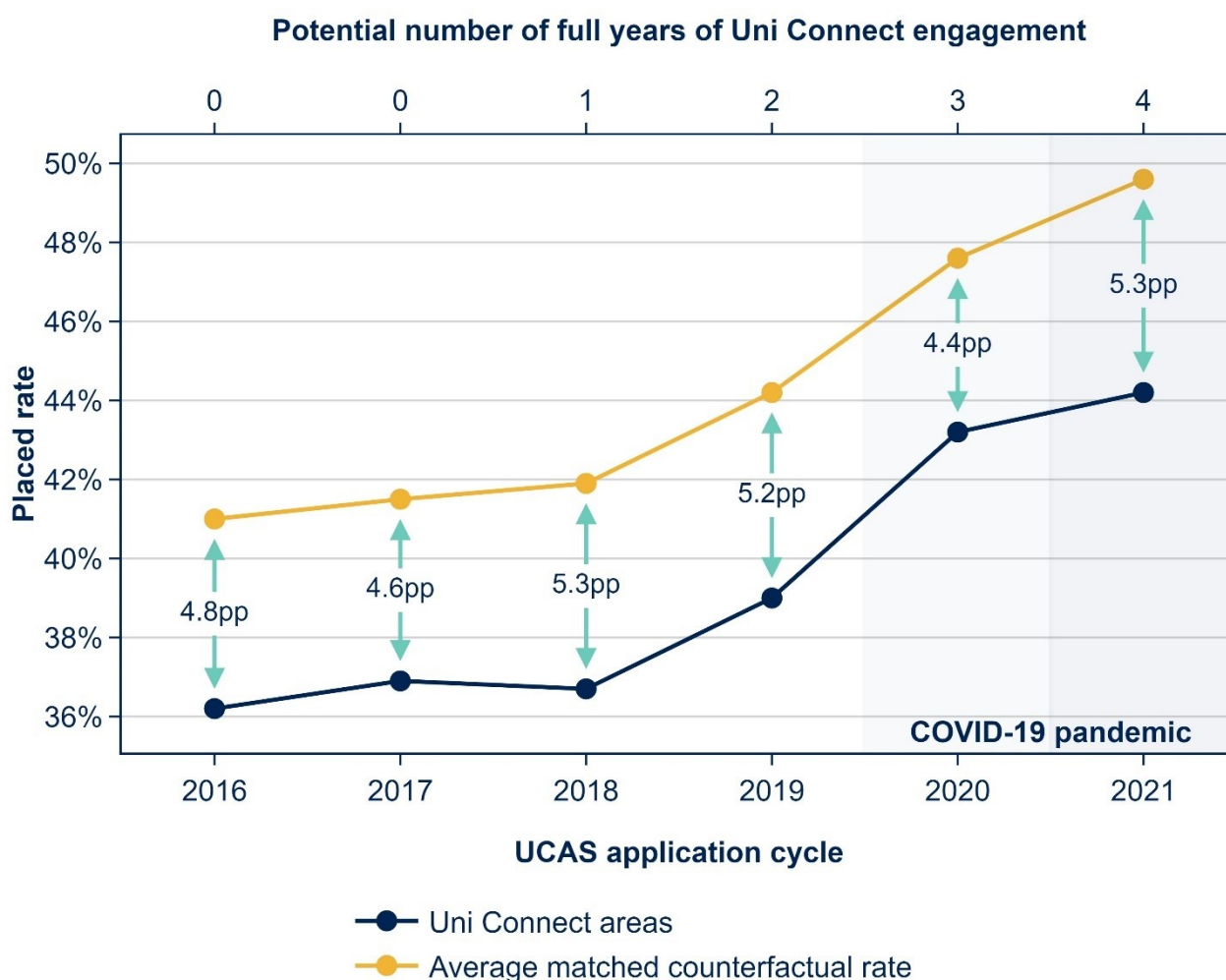
123. Figure 16 below shows the full range of estimated changes in the placed rate gap since 2016, across all 1,000 matched counterfactual samples. Like the gap in application rates, there is no evidence that the gap in placed rates has reduced in 2021, relative to 2016. However, unlike the gap in application rates, the statistically significance is marginal, with estimates ranging between 0.0 and 1.2 percentage points at the 95 per cent confidence level. As before, it is important to view this finding in the context of the pandemic.

Figure 16: Estimated percentage point change in gap in placed rates since 2016 after taking into account differences in matched characteristics between learners

Potential number of full years of Uni Connect engagement
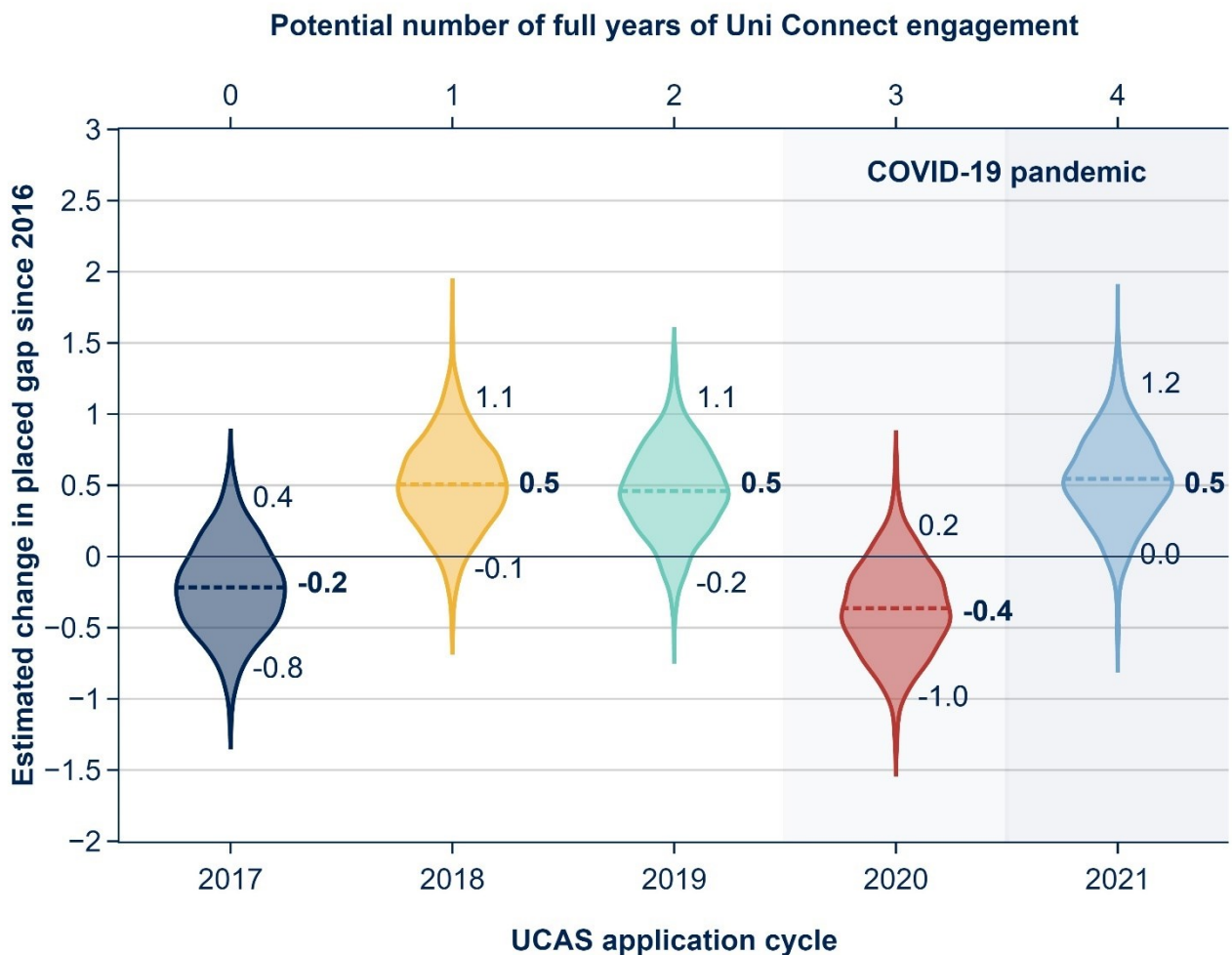
High tariff application rates

124.   This same analysis was also carried out on the gap in high tariff application rates, which we define as the proportion of the Key Stage 4 population which applied to at least one 'high tariff' higher education provider.[39]

125.   As previously shown in Figure 9, the gap in high tariff application rates between learners from Uni Connect areas and learners from other areas had widened, from 13.2 percentage points in 2016 to 14.8 percentage points in 2021. This was an even greater increase than seen in the more broadly defined gap in application rates over the same period.

126.   However, after matching learners on a set of characteristics, Figure 17 below shows that the gap between the high tariff application rate of learners from Uni Connect areas and the average rate across the 1,000 matched counterfactual groups widened from 5.4 percentage points in 2016 to 5.8 percentage points in 2021.

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[39] See the OfS Key Performance Measure 2 for more information on how high tariff providers are defined: www.officeforstudents.org.uk/about/measures-of-our-success/participation-performance-measures/gap-in-participation-at-higher-tariff-providers-between-the-most-and-least-represented-groups/.

Figure 17: Gap in high tariff application rates between learners from Uni Connect areas and the average high tariff application rate of 1,000 matched counterfactual groups of learners from non-Uni Connect areas

127. As Figure 18 below demonstrates, there is insufficient evidence to conclude that this 0.4 percentage point increase is outside the bounds of random variation. Estimates of the change in the high tariff application gap between 2016 and 2021 range between -0.2 and 1.0 percentage points (at the 95 per cent confidence level).

Figure 18: Estimated percentage point change in gap in high tariff application rates since 2016 after taking into account differences in matched characteristics between learners
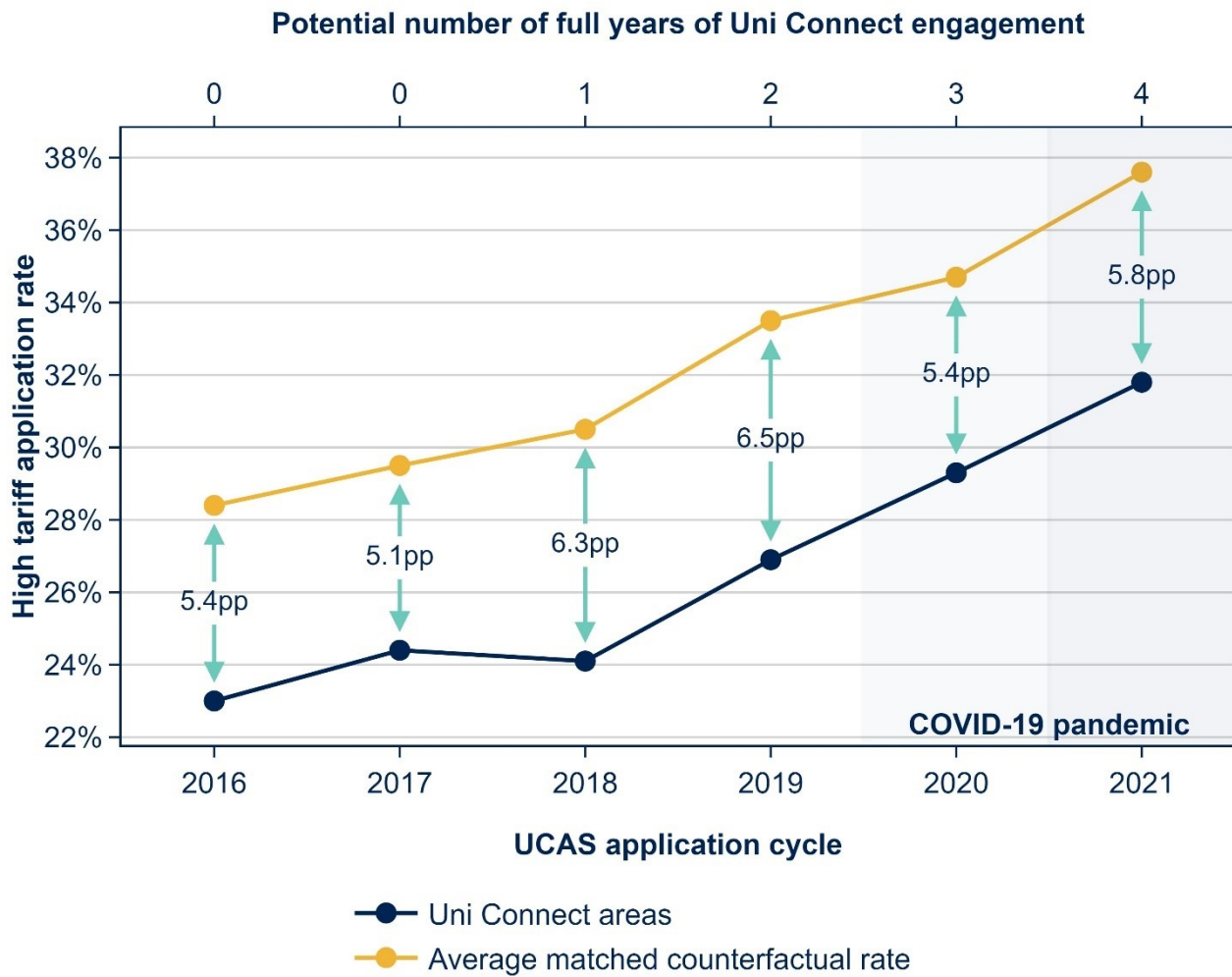
Potential number of full years of Uni Connect engagement
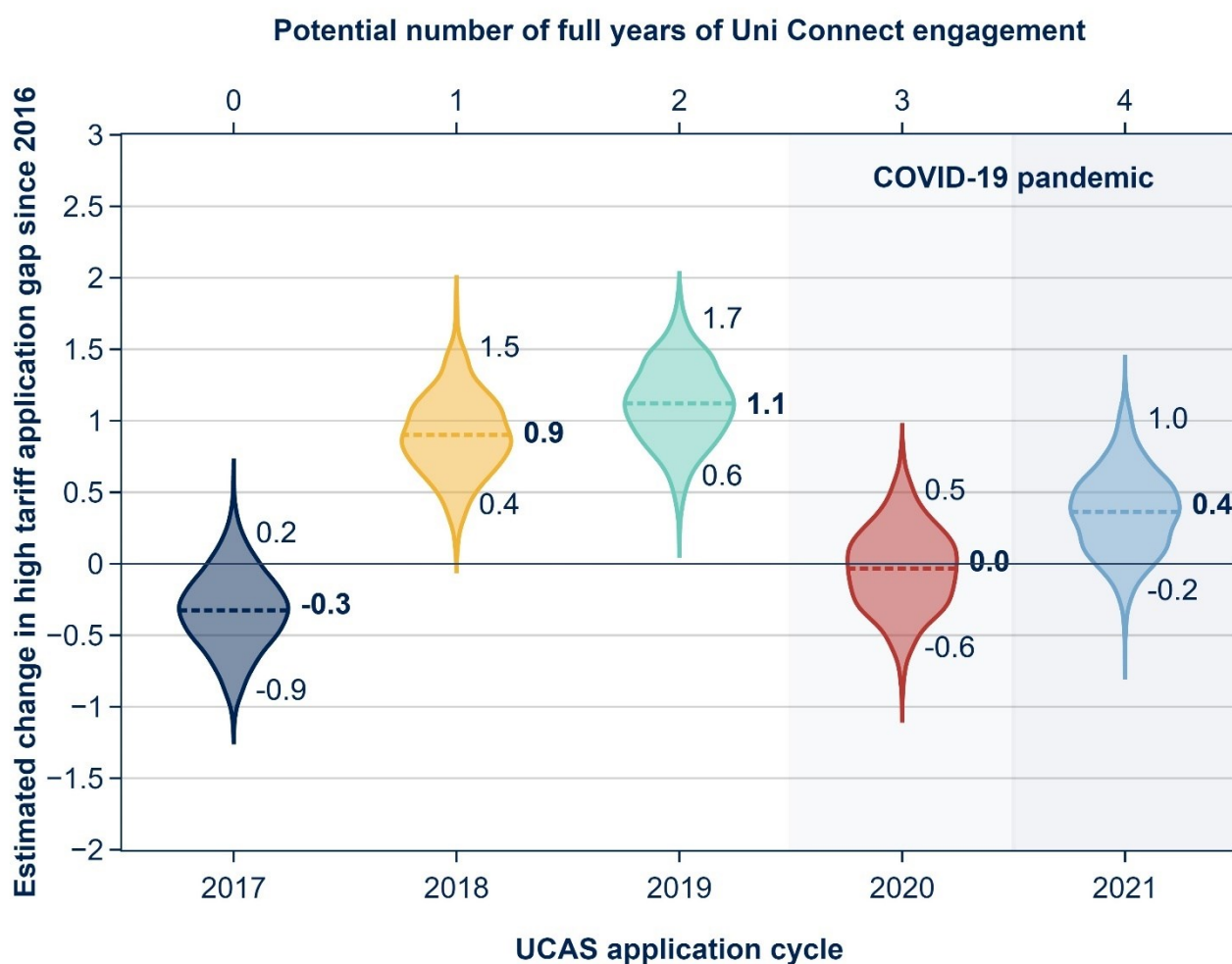
128. Annex D provides details of a range of checks and sensitivity analyses that we conducted to ensure that the findings from this matched counterfactual analysis were robust to changes in our approach. The datafile associated with this report contains the estimated changes in all gaps since 2016, across all 1,000 matched counterfactual groups.

This report is an official statistic which falls under the Code of Practice for Statistics. We welcome any feedback on our approach. Please email any comments to Stanley Rudkin at official.statistics@officeforstudents.org.uk.

Annex A: Relationship between application rates and GCSE attainment

1. Most individuals take GCSE exams at the end of Key Stage 4, roughly one year before starting to make decisions about applying to higher education. GCSE attainment therefore defines the context in which the application decision is made and is one of the most important factors associated with participation in higher education.

2. This annex repeats analysis from our original evaluation, showing that there continues to be a strong positive relationship between prior academic attainment and application rates, and that this relationship differs between learners from Uni Connect areas and those from other areas.[40]

3. In this analysis, we have used GCSE results recorded at Key Stage 4. Some learners will improve their GCSE results during Key Stage 5, but we do not include those results in this analysis.

4. Key Stage 4 qualifications (such as GCSEs) have been reformed since 2017, the year in which the Uni Connect programme was launched.[41] The methods of assessment were changed to include more emphasis on examinations at the end of the course and grades were re-categorised from A* to G to grades of 9 to 1. English and Maths were the first subjects to be reformed, with the first new results awarded to learners in the summer 2017 GCSE cohort, who could have first applied aged 18 in the 2019 UCAS application cycle. Other subjects were reformed in subsequent years, meaning that, in some years, there was a combination of both new and original grades awarded.

5. We were mindful of these reforms when establishing a measure of GCSE attainment that was consistent over time. We first adopted the same list of approved Key Stage 4 qualifications used by the Department for Education (DfE) in its school and college performance tables, in order to determine which qualifications should count as GCSE equivalences.[42] This then allowed us to identify the overall number of GCSEs (or equivalences) at grades A* to C (or 9 to

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[40] See www.officeforstudents.org.uk/publications/uni-connect-national-evaluation/.

[41] See www.gov.uk/government/publications/get-the-facts-gcse-and-a-level-reform/get-the-facts-gcse-reform.

[42] This list of approved Key Stage 4 qualifications is available at www.gov.uk/government/publications/key-stage-4-qualifications-discount-codes-and-point-scores. To ensure greater consistency over time in our measure of attainment, we deviated from one aspect of the DfE methodology, namely that 'entries into Combined science count as one entry [from 2018 onwards], whereas in previous years entry into core and additional would count as two entries.' We instead decided to count double awards twice for the 2018 and 2019 GCSE cohorts, because counting them once created a noticeable discontinuity in the time series. Even with this change, it is inevitable that GCSE reforms will have created other discontinuities in our measure of attainment over time, which are not possible to account for. Further information about the impact of GCSE reforms is available at www.gov.uk/government/statistics/gcse-and-equivalent-results-2017-to-2018-provisional. A timeline of Key Stage 4 attainment changes are available in the 'Quality and methodology information' document at www.gov.uk/government/statistics/key-stage-4-performance-2019-provisional

4) that were held by each learner. This is the primary measure of prior attainment used throughout this analysis.[43]

6. In designing this measure of prior attainment, we balanced the need for granularity with the risk of creating unique groups of learners which were too small when later being used for the matched counterfactual analysis. It is of course possible that the exact grade profile of two learners with the same number of grades A* to C (or 9 to 4) will differ. Nonetheless, as the analysis in this section shows, this measure holds a strong relationship with application outcomes.

7. Figure A1 below shows that the number of GCSEs at grades A* to C (or 9 to 4) is very strongly related to the proportion of a cohort that applies to higher education.

8. It also shows that this relationship is very similar for each year, but that in more recent cohorts, learners with more grades A* to C (or 9 to 4) have been increasingly likely to apply to higher education, as previously shown in Table 2.

9. Although it was not an aim of the Uni Connect programme to raise attainment among participating learners, it is possible that it has indirectly had this effect for the two most recent cohorts of learners, whose Uni Connect engagement potentially began in school years 9 and 10 respectively.

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[43] Grade '4', rather than '5', was chosen as the equivalent of grade 'C', because this resulted in similar progression rates for learners with similar attainment in the earlier years in the time series.

Figure A1: Application rate by number of GCSEs at grades A* to C (or 9 to 4) by summer of Key Stage 4 completion
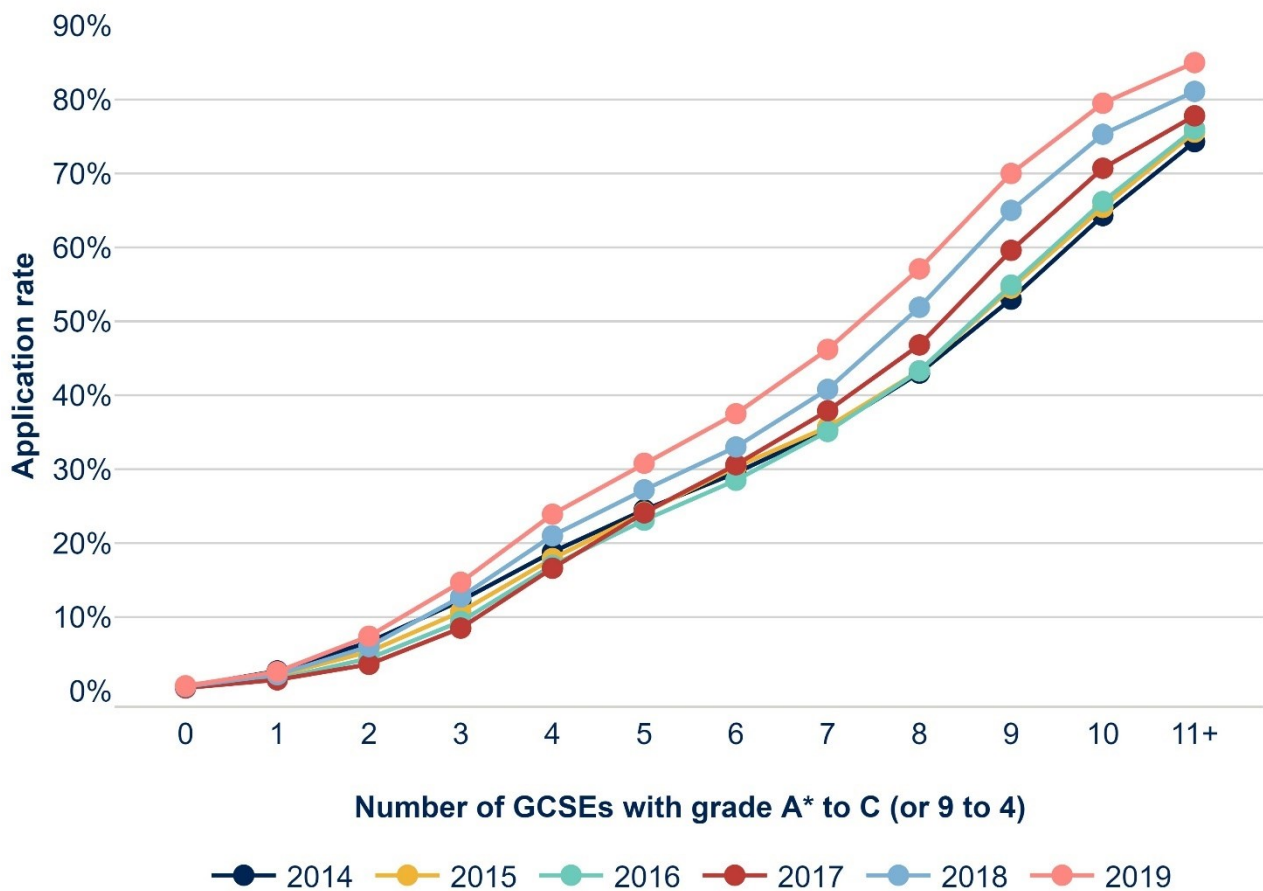
10. Figure A2 below compares the application rates between learners from Uni Connect and those from other areas, for each of the GCSE cohorts listed previously in Table 5. For all cohorts, it is clear that a gap in application rates opens up at higher levels of attainment between those from Uni Connect areas and those from other areas. After more than four or five GCSEs at grades A* to C (or 9 to 4) are held, application rates are consistently lower among learners from Uni Connect areas compared with learners from other areas. This is the gap that defines the targeting of Uni Connect areas; an area is targeted if it has low participation rates relative to the GCSE results of the young people living there.

11. If the Uni Connect programme were successful and all else were equal between the two groups of learners, we would expect to see narrower differences in application rates in more recent cohorts, which have had the most potential years of Uni Connect engagement.

12. This gap is important, because it suggests that any improvement in participation rates is most likely to be brought about by convincing higher attaining learners from low participation areas to apply to higher education when they otherwise would not have. This provides a clear motivation for limiting the Key Stage 4 population to those with at least five GCSEs at grade A* to C (or 9 to 4), which we adopt in the matching analysis in this report, in order to focus on the population for whom we would expect to see any impact from the Uni Connect programme.

Figure A2: Application rate by number of GCSEs at grades A* to C (or 9 to 4) for learners from Uni Connect areas and other areas who completed Key Stage 4 between 2014 and 2019
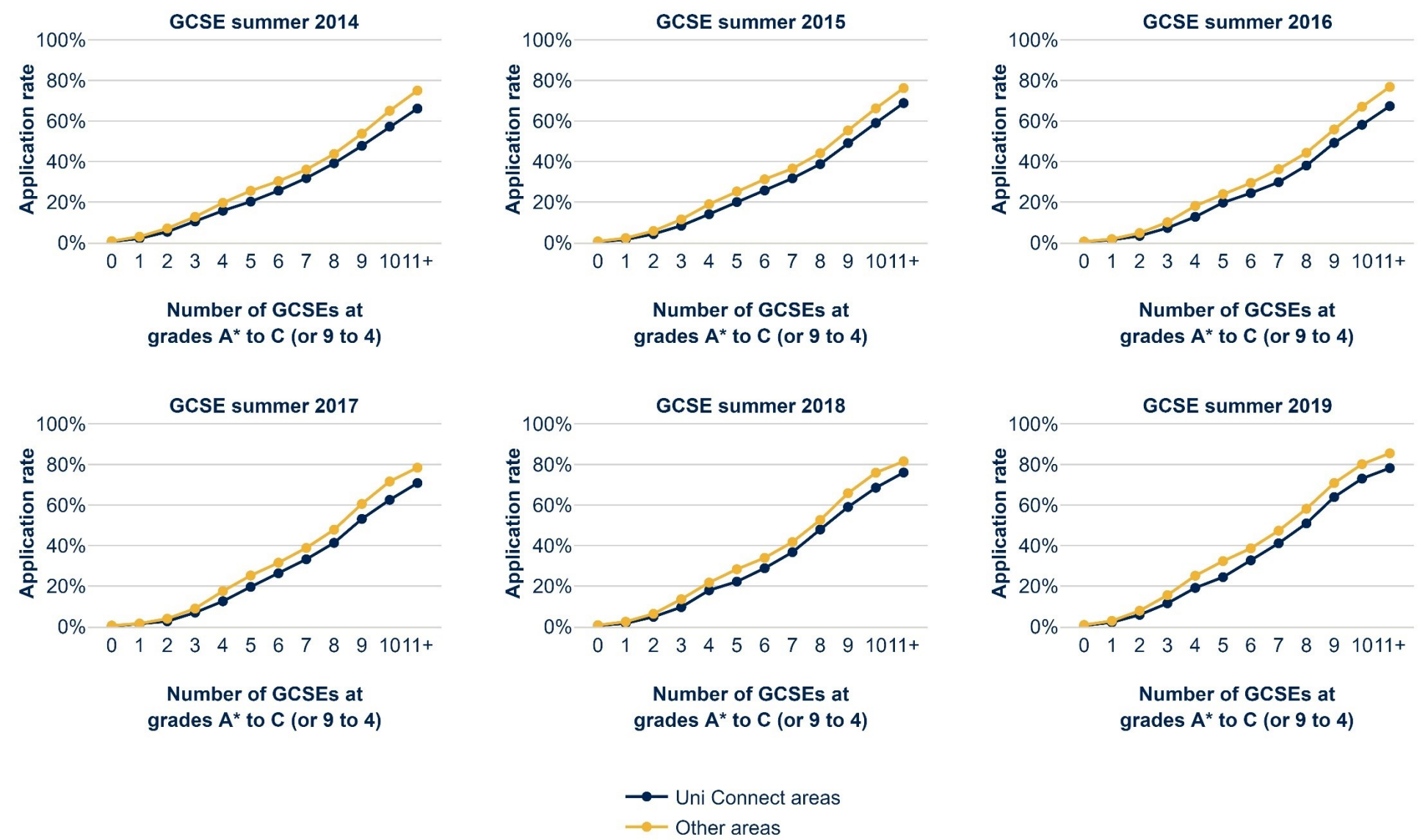
Annex B: Proportion of learners with different characteristics

1. Table B1 shows the numbers and proportions of English 16-year-old learners in the Key Stage 4 population with different characteristics, according to whether they lived in a Uni Connect area, for all GCSE cohorts between summer 2014 and 2019 combined.

2. Numbers are rounded to the nearest five and proportions are rounded to one decimal place.

Table B1: Number and proportion of English 16-year-old learners in Key Stage 4 population with different characteristics for all GCSE cohorts between summer 2014 and 2019 combined

Factor	Number of learners from Uni Connect areas	Proportion of learners from Uni Connect areas	Number of learners from non-Uni Connect areas	Proportion of learners from non-Uni Connect areas
GCSEs summer 2014	90,450	17.4%	453,960	17.2%
GCSEs summer 2015	89,470	17.3%	449,530	17.0%
GCSEs summer 2016	86,410	16.7%	439,150	16.6%
GCSEs summer 2017	83,440	16.1%	429,330	16.3%
GCSEs summer 2018	82,810	16.0%	425,675	16.1%
GCSEs summer 2019	85,855	16.6%	441,455	16.7%
GCSEs: 0 GCSEs A* to C (or 9 to 4)	95,325	18.4%	274,960	10.4%
GCSEs: 1 GCSEs A* to C (or 9 to 4)	54,900	10.6%	176,665	6.7%
GCSEs: 2 GCSEs A* to C (or 9 to 4)	40,080	7.7%	140,540	5.3%
GCSEs: 3 GCSEs A* to C (or 9 to 4)	34,680	6.7%	131,550	5.0%
GCSEs: 4 GCSEs A* to C (or 9 to 4)	32,240	6.2%	129,470	4.9%
GCSEs: 5 GCSEs A* to C (or 9 to 4)	31,325	6.0%	133,840	5.1%
GCSEs: 6 GCSEs A* to C (or 9 to 4)	32,515	6.3%	148,770	5.6%
GCSEs: 7 GCSEs A* to C (or 9 to 4)	37,625	7.3%	180,870	6.9%
GCSEs: 8 GCSEs A* to C (or 9 to 4)	44,170	8.5%	246,585	9.3%
GCSEs: 9 GCSEs A* to C (or 9 to 4)	48,260	9.3%	357,105	13.5%
GCSEs: 10 GCSEs A* to C (or 9 to 4)	37,895	7.3%	372,815	14.1%
GCSEs: 11 or more GCSEs A* to C (or 9 to 4)	29,425	5.7%	345,935	13.1%
English GCSE: No	214,160	41.3%	739,160	28.0%
English GCSE: Yes	304,280	58.7%	1,899,945	72.0%
Maths GCSE: No	212,890	41.1%	725,085	27.5%
Maths GCSE: Yes	305,545	58.9%	1,914,020	72.5%
Sex: Female	259,495	50.1%	1,302,470	49.4%

Factor	Number of learners from Uni Connect areas	Proportion of learners from Uni Connect areas	Number of learners from non-Uni Connect areas	Proportion of learners from non-Uni Connect areas
Sex: Male	258,945	49.9%	1,336,635	50.6%
Ethnicity: Any other white background	22,765	4.4%	119,115	4.5%
Ethnicity: Asian or Asian British - Bangladeshi	3,790	0.7%	47,810	1.8%
Ethnicity: Asian or Asian British - Chinese	1,335	0.3%	10,090	0.4%
Ethnicity: Asian or Asian British - Indian	5,555	1.1%	77,630	2.9%
Ethnicity: Asian or Asian British - Other	5,635	1.1%	44,015	1.7%
Ethnicity: Asian or Asian British - Pakistani	11,985	2.3%	111,640	4.2%
Ethnicity: Black or Black British - African	13,455	2.6%	88,955	3.4%
Ethnicity: Black or Black British - Caribbean	3,785	0.7%	38,615	1.5%
Ethnicity: Black or Black British - Other	3,310	0.6%	16,380	0.6%
Ethnicity: Gypsy, Roma or Traveller	1,725	0.3%	5,145	0.2%
Ethnicity: Mixed - other	6,225	1.2%	43,265	1.6%
Ethnicity: Mixed - white and Asian	3,535	0.7%	27,155	1.0%
Ethnicity: Mixed - white and black African	2,560	0.5%	13,490	0.5%
Ethnicity: Mixed - white and black Caribbean	7,615	1.5%	34,625	1.3%
Ethnicity: Other ethnic group	4,665	0.9%	43,285	1.6%
Ethnicity: Unknown or refused	5,585	1.1%	27,850	1.1%
Ethnicity: White - English/Welsh/Scottish/Northern Irish/British	414,010	79.9%	1,880,670	71.3%
Ethnicity: White - Irish	905	0.2%	9,370	0.4%
Free School Meal Status: Not Receiving FSM	322,300	62.2%	2,026,760	76.8%
Free School Meal Status: Receiving FSM	196,140	37.8%	612,345	23.2%

3. Table B2 shows the numbers and proportions of English 16-year-old learners in the Key Stage 4 population with different characteristics, according to whether they lived in a Uni Connect

area, for those who obtained five or more GCSEs at grades A* to C (or 9 to 4) between summer 2014 and 2019. In addition, learners who lived outside Uni Connect target areas but appear to have attended a school with some Uni Connect engagement were also excluded, as described in Annex D of the report.

4. Note that the population in Table B2 is slightly broader than that of learners eligible for matching (numbers of which can be found in the datafile associated with this release), because it still includes learners with combinations of characteristics which did not exist in the opposite group.

Table B2: Number and proportion of English 16-year-old learners in Key Stage 4 population with different characteristics who obtained five or more GCSEs at grades A* to C (or 9 to 4) and completed their GCSEs between summer 2014 and 2019

Factor	Number of learners from Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4)	Proportion of learners from Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4	Number of learners from non-Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4) who did not attend a school with Uni Connect engagement	Proportion of learners from non-Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4) who did not attend a school with Uni Connect engagement
GCSEs summer 2014	42,235	16.2%	204,670	18.7%
GCSEs summer 2015	43,865	16.8%	201,025	18.4%
GCSEs summer 2016	44,240	16.9%	182,230	16.7%
GCSEs summer 2017	44,175	16.9%	179,150	16.4%
GCSEs summer 2018	42,765	16.4%	166,500	15.2%
GCSEs summer 2019	43,930	16.8%	160,890	14.7%
GCSEs: 5 GCSEs A* to C (or 9 to 4)	31,325	12.0%	75,560	6.9%
GCSEs: 6 GCSEs A* to C (or 9 to 4)	32,515	12.4%	83,665	7.6%
GCSEs: 7 GCSEs A* to C (or 9 to 4)	37,625	14.4%	102,385	9.4%
GCSEs: 8 GCSEs A* to C (or 9 to 4)	44,170	16.9%	139,945	12.8%
GCSEs: 9 GCSEs A* to C (or 9 to 4)	48,260	18.5%	210,715	19.3%
GCSEs: 10 GCSEs A* to C (or 9 to 4)	37,895	14.5%	241,115	22.0%
GCSEs: 11 or more GCSEs A* to C (or 9 to 4)	29,425	11.3%	241,075	22.0%
English GCSE: No	21,545	8.2%	69,050	6.3%
English GCSE: Yes	239,665	91.8%	1,025,415	93.7%

Factor	Number of learners from Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4)	Proportion of learners from Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4	Number of learners from non-Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4) who did not attend a school with Uni Connect engagement	Proportion of learners from non-Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4) who did not attend a school with Uni Connect engagement
Maths GCSE: No	17,150	6.6%	56,970	5.2%
Maths GCSE: Yes	244,060	93.4%	1,037,495	94.8%
Sex: Female	145,060	55.5%	576,445	52.7%
Sex: Male	116,150	44.5%	518,020	47.3%
Ethnicity: Any other white background	12,175	4.7%	53,955	4.9%
Ethnicity: Asian or Asian British - Bangladeshi	2,475	0.9%	28,095	2.6%
Ethnicity: Asian or Asian British - Chinese	1,125	0.4%	6,235	0.6%
Ethnicity: Asian or Asian British - Indian	4,250	1.6%	47,330	4.3%
Ethnicity: Asian or Asian British - Other	3,960	1.5%	25,505	2.3%
Ethnicity: Asian or Asian British - Pakistani	6,455	2.5%	51,305	4.7%
Ethnicity: Black or Black British - African	8,685	3.3%	47,490	4.3%
Ethnicity: Black or Black British - Caribbean	1,830	0.7%	17,610	1.6%
Ethnicity: Black or Black British - Other	1,790	0.7%	7,195	0.7%
Ethnicity: Gypsy, Roma or Traveller	200	0.1%	370	0.0%
Ethnicity: Mixed - other	3,615	1.4%	22,050	2.0%
Ethnicity: Mixed - white and Asian	2,095	0.8%	14,080	1.3%
Ethnicity: Mixed - white and black African	1,435	0.5%	6,225	0.6%
Ethnicity: Mixed - white and black Caribbean	3,520	1.3%	13,365	1.2%
Ethnicity: Other ethnic group	2,715	1.0%	23,205	2.1%
Ethnicity: Unknown or refused	2,565	1.0%	12,260	1.1%

Factor	Number of learners from Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4)	Proportion of learners from Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4	Number of learners from non-Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4) who did not attend a school with Uni Connect engagement	Proportion of learners from non-Uni Connect areas with at least five GCSEs at grades A* to C (or 9 to 4) who did not attend a school with Uni Connect engagement
Ethnicity: White - English/Welsh/Scottish/Northern Irish/British	201,850	77.3%	712,925	65.1%
Ethnicity: White - Irish	480	0.2%	5,260	0.5%
Free School Meal Status: Not Receiving FSM	191,330	73.2%	905,830	82.8%
Free School Meal Status: Receiving FSM	69,880	26.8%	188,635	17.2%

5. Table B3 below shows the number of learners in the Key Stage 4 population living in POLAR3 quintile 1 areas and the number living in quintile 5 areas for each cohort applying at age 18 between the 2016 and 2021 UCAS application cycles. These are the underlying numbers of learners from which the application rates, high tariff application rates and placed rates in Figures 2 to 5 are calculated.

Table B3: Number of English 16-year-old learners in Key Stage 4 population living in POLAR3 quintiles 1 and 5

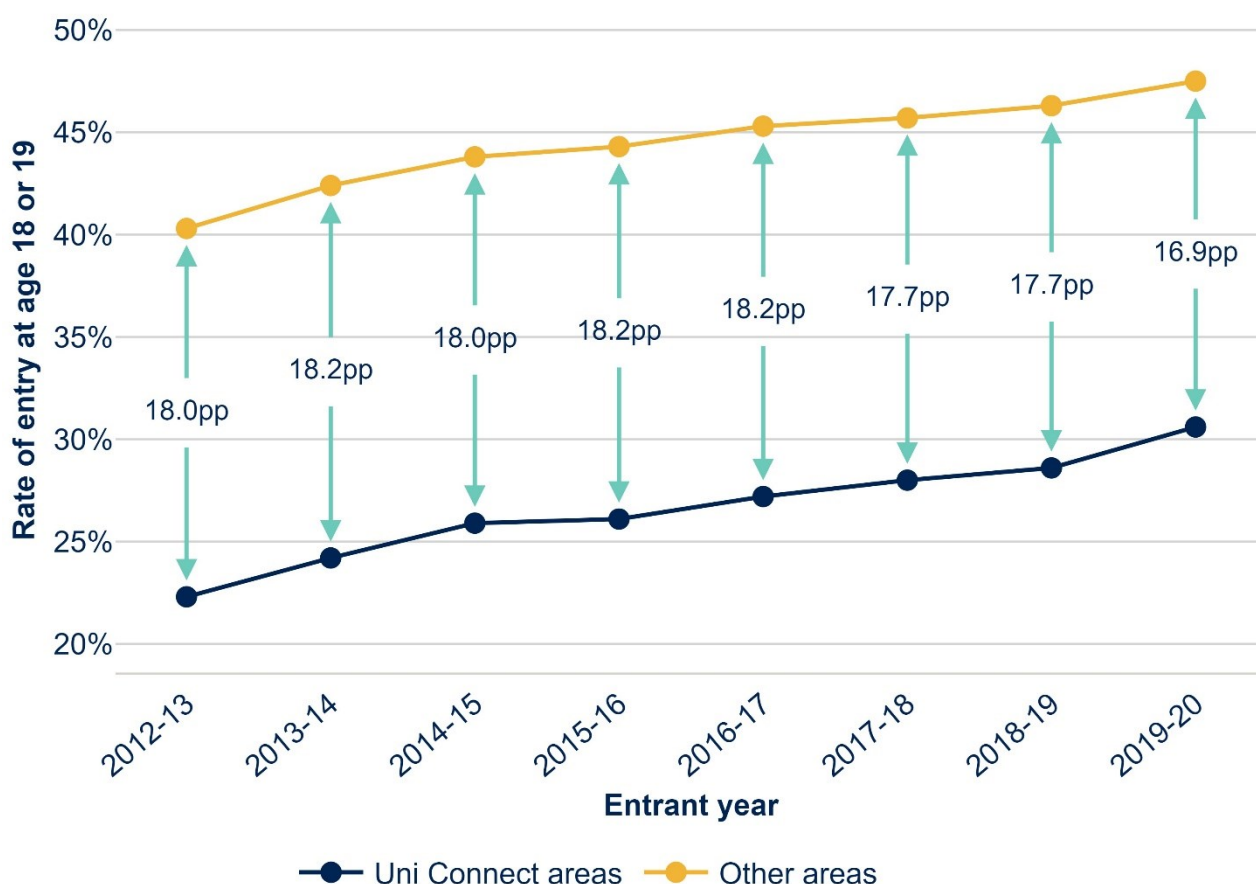| UCAS application cycle	GCSE summer	Number of Key Stage 4 learners in POLAR3 quintile 1 areas	Number of Key Stage 4 learners in POLAR3 quintile 5 areas
2016	2014	107,885	100,795
2017	2015	106,535	100,365
2018	2016	103,170	98,925
2019	2017	99,245	97,175
2020	2018	98,655	96,725
2021	2019	102,275	100,320

Annex C: Entry into higher education by age 19

1. This annex provides an early assessment of the available higher education entry data, which, although slightly more lagged, includes information on higher education participation that is otherwise out of scope in the UCAS application data. This provides insight into alternative routes of entry into higher education courses, such as part-time study and entry into higher education by age 19.

2. We find that the gap in rates of entry by age 19 appears to have narrowed over the available period, which is two years shorter than in our analysis of application rates. However, after differences in characteristics are taken into account by matching learners from each group, this narrowing trend is no longer evident.

3. This information may be of particular interest given the additional aim of the Uni Connect programme to 'support young people to make well-informed decisions about their future education'. For some young people, alternative routes of entry into higher education, such as entry by age 19 or part-time study, may represent better informed decisions. Therefore, in this annex, we begin to examine whether patterns in these types of entry vary between learners from Uni Connect areas and elsewhere.

4. However, the most recent academic year for which higher education entry data is available is 2020-21. This means that the latest GCSE cohort for which we can calculate rates of entry by age 19 is that of learners who were in Key Stage 4 in summer 2017, many of whom will have already made their application decisions by the time their Uni Connect engagement began. This annex therefore sets out a methodology which could be adopted in future evaluation, when more recent higher education administrative data becomes available.

5. As with the linked NPD and UCAS data, Key Stage 4 pupils on the NPD were linked to records in the higher education data from HESA and the ILR by 'fuzzy matching' of personal characteristics. This allows us to track which Key Stage 4 learners were recorded as having started a higher education course by age 19.

6. Figure C1 below shows the proportion of Key Stage 4 learners who were identified as having entered higher education by age 19, split by their POLAR3 quintile. As with application rates, a substantial gap in rates of entry by age 19 exists between learners from the most represented areas (POLAR3 quintile 5) and the least represented areas (quintile 1).

7. However, unlike the gap in application rates, the gap in rates of entry by age 19 appears to have narrowed over the available period, which is two years shorter than in our analysis of application rates. The gap in rates of entry by age 19 between POLAR3 quintiles 5 and 1 reduced from 31.1 percentage points in the 2012-13 entrant year to 28.7 percentage points in the 2019-20 entrant year.

**Figure C1: Gaps in rates of entry by age 19 between POLAR3 quintiles 1 and 5**

8. A similar trend can be seen in the gap between learners from Uni Connect areas and those from other areas, as shown in Figure C2.

Figure C2: Gaps in rates of entry by age 19 between Uni Connect and non-Uni Connect areas

Figure: Line chart showing rate of entry at age 18 or 19 by entrant year.

- Y-axis: Rate of entry at age 18 or 19 (20% to 50%)
- X-axis: Entrant year (2012-13 to 2019-20)

Gap values between Uni Connect areas and Other areas:
- 2012-13: 18.0pp
- 2013-14: 18.2pp
- 2014-15: 18.0pp
- 2015-16: 18.2pp
- 2016-17: 18.2pp
- 2017-18: 17.7pp
- 2018-19: 17.7pp
- 2019-20: 16.9pp

Legend: Uni Connect areas; Other areas

9. However, after differences in a set of underlying characteristics are taken into account by matching learners from these two groups, the overall gap reduces substantially, to around 6 percentage points, as shown in Figure C3 below. Furthermore, Figure C3 appears to show that this gap has in fact widened since the Uni Connect programme launched, from 5.2 percentage points in the 2016-17 entrant year to 5.8 percentage points in the 2019-20 entrant year. It should again be noted many of the learners in this most recent cohort will have already made their application decisions by the time their Uni Connect engagement began.

Figure C3: Gap in rates of entry by age 19 between learners from Uni Connect areas and the average rate of 1,000 matched counterfactual groups of learners from non-Uni Connect areas

Potential number of full years of Uni Connect engagement
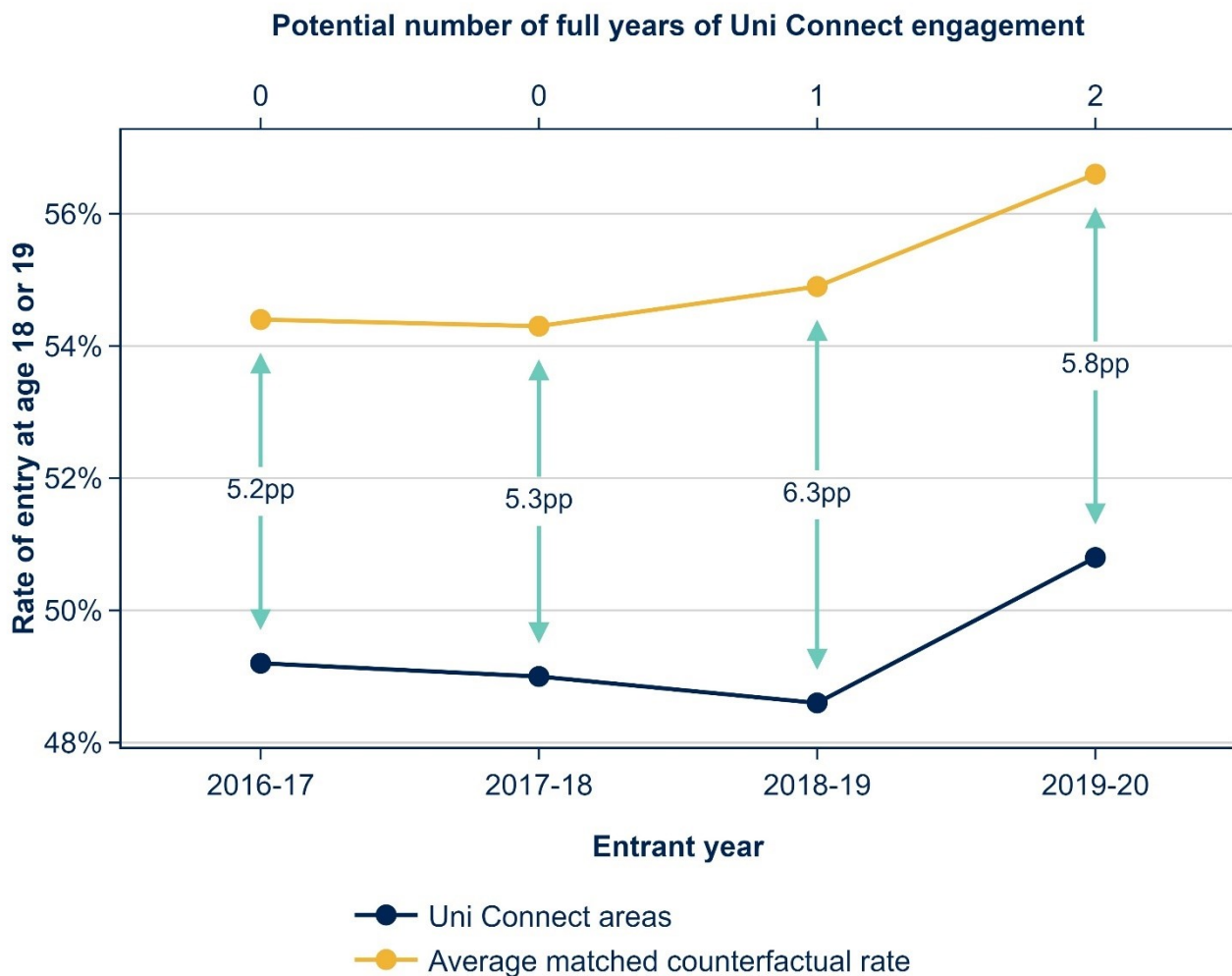
10. The full range of estimated changes in this gap for each entrant year since 2016-17 is presented in Figure C4 below, which suggests that the change in this gap by 2019-20 is marginally statistically significant at the 95 per cent confidence level, with estimates ranging between 0.0 and 1.2 percentage points.

Figure C4: Estimated change in gap in rates of entry by age 19 since 2016-17 after taking into account differences in matched characteristics between learners

Potential number of full years of Uni Connect engagement
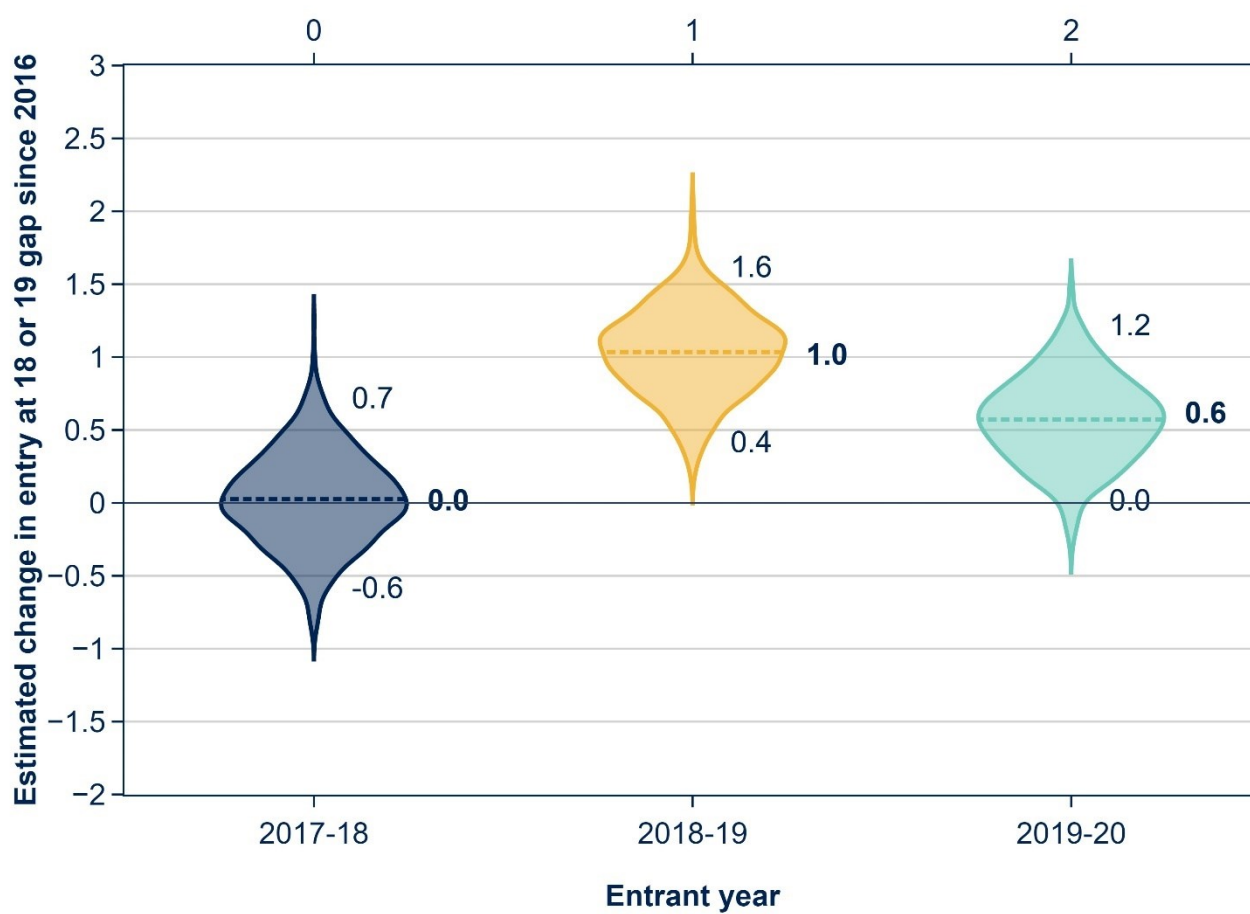
Annex D: Matched counterfactual analysis

Technical description

1. The matched counterfactual approach involves comparing two equally sized groups which are forced to have an identical mix of certain characteristics. In this case, we compare all learners from Uni Connect areas with another equally sized group of learners from non-Uni Connect areas. This second group of learners from non-Uni Connect areas is carefully chosen to match the original group on a pre-defined set of characteristics. This matched group is then known as the 'matched counterfactual', because it represents a hypothetical situation where learners from Uni Connect areas had instead come from non-Uni Connect areas.

2. This matched counterfactual group was created by randomly sampling (with replacement) from the population of learners from non-Uni Connect areas. This was done such that each learner from a Uni Connect area matched one other learner from a non-Uni Connect area in the same cohort on the following characteristics: their number of GCSEs at grade A* to C (or 9 to 4), whether they achieved a standard pass in GCSE English, a standard pass in GCSE Maths, their sex, their ethnicity and their free school meal status. Matching in this way meant there would always be the same number of learners from Uni Connect areas and non-Uni Connect areas within each combination of the characteristics listed above. In other words, both groups were guaranteed to have the same mix of these characteristics.

3. The key difference is that one group was living in Uni Connect areas in Key Stage 4, while the other was not. This should allow for a fairer comparison of outcomes between these two groups over time, which can begin to shed light on the impact, if any, of the Uni Connect programme. Of course, there will remain other differences that are not possible to account for, such as the amount of support each learner received from their school or family. If these unobserved differences in characteristics between the two groups change over time, this will distort our understanding of the impact of Uni Connect programme. There will also be within the categories of matched characteristics, such as the exact GCSE grades achieved by each learner beyond the number of 'standard passes'.

4. The choice of the two groups was determined as follows. Because there are far more learners from non-Uni Connect areas, 99.9 per cent of learners from Uni Connect areas had a combination of characteristics which could be exactly matched with at least one learner from a non-Uni Connect area, meaning only 0.1 per cent of learners from Uni Connect areas had to be discarded for this reason. A further 0.6 per cent of learners from Uni Connect areas were discarded because, although there was at least one learner from a non-Uni Connect area with the same mix of characteristics, there were enough to match each learner one-to-one. We would otherwise have been forced to sample some learners from non-Uni Connect areas more than once, which would have artificially reduced the sampling variation and resulting estimates of statistical uncertainty. This means we created a single unique group of learners living in Uni Connect areas for each cohort of school leavers, for which there were at least as many learners in non-Uni Connect areas with each unique combination of the matching characteristics.

5. Similarly, 0.8 per cent of learners from non-Uni Connect areas were also discarded, since they held a combination of matching characteristics which was not held by at least one learner living

in a Uni Connect area. However, unlike the group of learners from Uni Connect areas, the matched counterfactual group is not unique, because it is selected by random sampling (with replacement) from the much larger population of learners from non-Uni Connect areas (see Table B2). As a result, if only one random sample is taken, there is a risk that it happens to be an 'unusual' group of learners, who are not typical of the population as a whole.

6. To mitigate against this, we took 1,000 random samples of learners from non-Uni Connect areas, such that selected learner living in a non-Uni Connect area matched with one other unique learner living in a Uni Connect area in each sample, based on the characteristics described previously.[44]

7. Our analysis was then conducted 1,000 times, by separately comparing the application outcomes of each matched counterfactual group with the same unique group of learners from Uni Connect areas every time. The full range of results from all 1,000 analyses are presented in this report. This approach gives us confidence that the results we are seeing are not simply by random chance.

8. In practice, within each of the 1,000 random samples, roughly 20 per cent of unique learners from non-Uni Connect areas are randomly selected and matched with learners from Uni Connect areas in each cohort. Around 15 per cent of those selected appear more than once in each matched counterfactual group. The datafile associated with this report contains details of the sampling rates for each of the 1,000 matched counterfactual groups.[45]

Minimising spillover effects

9. Learners from the same school or college as those targeted by the programme, but who are not living in a Uni Connect area, may also benefit from outreach activity. In the matched counterfactual analysis, we have sought to minimise these spillover effects. We did this by excluding learners who were living outside Uni Connect areas but were known to have attended a school or college which was engaged by the programme in at least one of the years these learners attended. These schools and colleges were identified in one of the following ways:

    a. They were listed in the December 2017 partnership monitoring return to the OfS.

    b. They were listed in the winter 2018 partnership monitoring return to the OfS, as schools or colleges who 'are or will be in receipt of activity'.

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[44] Sampling was done with replacement because there were only a limited number of learners from non-Uni Connect areas who were eligible for matching. Sampling without replacement could therefore have resulted in selecting the same handful of eligible leaners from non-Uni Connect areas in each of the 1,000 repeated samples, which would ultimately understate the variation in the distribution of estimates. Sampling with replacement also had the benefit of allowing us to use an established method for estimating statistical uncertainty, namely 'bootstrapping'. Although sampling with replacement will sometimes mean the same individual is selected more than once within a given sample (roughly 15 per cent of learners in each matched counterfactual group), sufficient variation should be achieved if enough resamples are taken.

[45] Available at www.officeforstudents.org.uk/publications/uni-connect-national-evaluation-updated-analysis/.

c. They were listed in the summer 2019 partnership monitoring return to the OfS, as schools or colleges with which partnerships had begun delivering intended outreach activity.

d. They were recorded in the summer 2020 tracking report data, as schools or colleges that received at least 10 hours of engagement from Uni Connect partnerships.

e. They were listed in the summer 2021 tracking report data, as schools or colleges that received at least 10 hours of engagement from Uni Connect partnerships.

f. Over half of the learners at a given school or college across the six Key Stage 4 cohorts were from Uni Connect areas.

g. More than 100 learners at a given school or college across the six Key Stage 4 cohorts were from Uni Connect areas.

10. Furthermore, in light of the finding in Annex A that gaps in application rates are only apparent at higher levels of prior attainment, learners with fewer than five grade A* to C (or 9 to 4) were also excluded from this part of the analysis.

Sensitivity analysis

11. We performed a range of checks and sensitivity analyses to ensure that the findings from the matched counterfactual analysis were robust to changes in our approach. We considered the following aspects:

a. We experimented with matching on fewer characteristics, for example excluding English and Maths results, or matching on GCSE attainment only.

b. We tried matching on both IMD and IDACI in turn as alternative measures of disadvantage to FSM.

c. We tried matching on school type (within all state-funded mainstream schools or colleges in England) in addition to the other criteria.

d. We experimented with relaxing the threshold for excluding learners from non-Uni Connect areas to minimise the spillover effects from potentially being in a Uni Connect targeted school or college. The condition that the school or college must have 100 or fewer Uni Connect learners over the four years was increased to 200 and 300 or fewer Uni Connect learners.

e. We concluded there was no need to test the exclusion threshold of 50 per cent of Uni Connect learners at a school or college as there were few schools or colleges with a very small number of learners over the years which were not otherwise excluded.

f. We ran a statistical model of the form adopted in the previous publication of this analysis.[46] Given the overall conclusions were the same as those from the matched counterfactual approach, it was decided not to report the results of that model in this

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[46] Available at www.officeforstudents.org.uk/publications/uni-connect-national-evaluation/.

publication to improve the interpretability and accessibility of this report. The results from this model also relate to a broader population of learners, including some who would otherwise have been discarded from the matching analysis because they were too dissimilar from the group of learners living in Uni Connect areas. We felt that the matching analysis was more closely aligned with the aims of this evaluation for this reason.

g. We adjusted the threshold for the number of GCSEs at grades A* to C or (9 to 4) that learners were required to hold to be included in the matched analysis. We tried changing this threshold from five to both four and six.

h. We tried limiting the population of learners from Uni Connect areas to only those who appeared to have attended a school with some recorded engagement, apart from the comparison cohort in 2016.

12. None of the adjustments above made any substantial difference to the findings of this analysis; we continued to find no evidence of a reduction in the application rate gap after matching in any year since 2016.

Annex E: Summary of feedback from previous release and changes to the analysis

13. This annex presents some of the feedback received for our previous analysis and describes the places where we have attempted to incorporate this feedback into this report.

    a. Some users felt that the comparison of POLAR3 quintiles 1 and 5 might be missing the impact of the spillover effect of the Uni Connect programme on learners from underrepresented areas on the margins (such as those in POLAR3 quintile 2). We incorporated this suggestion by presenting a new chart (Figure 3) comparing quintiles 1 and 2 combined against quintile 5.

    b. It was also argued that the attempt to match learners in the previous analysis was missing an important interaction between school type and application rates, and the fact that this relationship differs between Uni Connect areas and other areas. For example, it might have been that changes in the application gap over time were driven by the fact that school type was unbalanced between the two groups, rather than one group having lived in a Uni Connect target area while the other did not. In response to this, as set out in our sensitivity analysis, we tried matching on school type in addition to the other matching criteria. But this made no difference to the overall conclusions of the analysis; there was no reduction in the application gap between 2016 and 2021.

    c. Another suggestion we received was to conduct separate analyses for each English region. We decided against this because it is beyond the scope of this national evaluation; other parts of the Uni Connect evaluation are designed to evaluate the programme at a local level.

    d. Some users were unclear whether learners applying to higher education courses provided by further education colleges (FECs) were within scope of the UCAS Undergraduate scheme (and therefore this analysis). We want to clarify that applications to these higher education providers are included in the UCAS applications data. However, there is a possibility that learners studying Level 3 qualifications at an FEC, who then move on to study qualifications at Level 4 or above at the same college, will bypass the UCAS undergraduate scheme when entering higher education. These learners will therefore not be captured in our analysis of application outcomes. They will instead be captured in the new analysis of higher education entrant data, discussed in Annex C.

    e. One limitation with the matching analysis is that our ability to account for differences in socioeconomic background between learners from Uni Connect areas and other areas is based solely on free school meals status. While this represents a reliable indicator of learner disadvantage, it lacks granularity because it can only divide the population of learners in two. It is unable to distinguish between different levels of disadvantage, unlike other measures such as the Index for Multiple Deprivation (IMD)[47] and the

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[47] See www.gov.uk/government/collections/english-indices-of-deprivation.

Income Deprivation Affecting Children Index (IDACI).[48] However, area-based measures such as IMD and IDACI were deliberately avoided due to the existing area-based comparison being made between learners from Uni Connect target areas and learners from other areas. Nonetheless, as described in our sensitivity analysis, when IMD and IDACI were included as alternative matching criteria to free school meals status, the conclusions of this analysis were unchanged; there was no reduction in the application rate gap between 2016 and 2021 after differences in matched characteristics were taken into account.

f.   The purpose of this report is to evaluate the long-term impact of the Uni Connect programme in achieving one of its stated aims: to reduce the gap in higher education participation between the most and least represented groups of learners. However, beyond comparing the headline application rates of the most and least represented areas in England (as defined by POLAR3 quintiles), this report also explores whether the Uni Connect programme appears to be associated with a reduction in this gap among learners for whom we would expect the impact of the programme (if any) to be most evident. In the previous analysis, while we made clear that learners from target areas had not necessarily been engaged by the Uni Connect programme, we presented no attempt to quantify the extent of this engagement in target areas. This update includes a new section on this topic, finding that less than one in five learners in Uni Connect target areas in the most recent cohort received the full amount of engagement intended in the programme design. This is important, because it suggests that the impact of the Uni Connect programme may be limited by its scale.

g.   We received feedback that the decision to apply to higher education was not the only outcome of interest in the Uni Connect programme, although it was most closely related to the programme aims after the placed rate itself. In light of this feedback, we have now conducted analysis of applications to more selective – or 'high tariff'– providers, in addition to the four existing application outcomes which were analysed in the previous report.

h.   We updated the criteria for excluding learners from non-Uni Connect areas from the matched counterfactual analysis, in order to take account of the timing of the school-based engagement received by each cohort.

i.   Although we did not receive any external feedback on our statistical model, we have reconsidered this part of the analysis. Given the findings of two statistical approaches continue to be extremely similar, in the interests of interpretability, we opted to present only the findings from the matching analysis in this update. As described in our sensitivity analysis, we did nonetheless run the statistical model described in our previous report for quality assurance purposes, but the overall conclusions remained unchanged. The results from the statistical model also happen to relate to a broader population of learners, including some who would otherwise have been discarded from the matching analysis because they were too dissimilar from the group of learners living in Uni Connect areas. We felt that the matching analysis was more closely aligned with the aims of this evaluation for this reason.

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[48] See opendatacommunities.org/def/concept/general-concepts/imd/idaci.

j.   On a related note, we have also tried to improve our methodology for estimating statistical uncertainty by using a bootstrap approach, in part because of the resampling involved in the existing matching analysis. Following on from this, we also decided to avoid reporting statistical significance at the 95 per cent confidence level only, since this is an arbitrary threshold. We now additionally report the full range of estimates from our matching analysis (and the associated probability density) through the use of violin plots.[49]

This report is an official statistic which falls under the Code of Practice for Statistics. We welcome any feedback on our approach. Please email any comments to Stanley Rudkin at official.statistics@officeforstudents.org.uk.

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[49] Available in the datafile associated with this release at www.officeforstudents.org.uk/publications/uni-connect-national-evaluation-updated-analysis/.